TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

QUALITY MANAGEMENT PLAN

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Approved:

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AGENCY GOALS AND PHILOSOPHY

Conservation of the state's environment through the prudent stewardship of its natural resources is a priority goal of the State of Texas. In fulfilling this goal, the Texas Commission on Environmental Quality (TCEQ, or commission, or agency) will act in accordance with the highest standards of ethics, accountability, efficiency, and responsiveness to the people of Texas. The agency will communicate openly with everyone: the people of Texas who rely on the agency to protect the environment and their health; the regulated community; elected officials; and the media. Since our people are our most valued asset, all employees will have an equal opportunity to excel in an environment that fosters open communications and employee involvement.

Protecting public health and the environment and ensuring effective management of our natural resources is a public trust. The TCEQ will approach these activities with a sense of purpose and responsibility and will provide a level of service that exceeds the expectations of our customers. The public and regulated community alike can be assured of a balanced and sensible approach to regulation.

To accomplish our mission, we will:

- base decisions on the law, common sense, sound science, and fiscal responsibility;
- ensure that regulations are necessary, effective, and current;
- apply regulations clearly and consistently;
- ensure consistent, just, and timely enforcement when environmental laws are violated;
- ensure meaningful public participation in the decision-making process;
- promote and foster voluntary compliance with environmental laws and provide flexibility in achieving environmental goals; and
- hire, develop, and retain a high-quality, diverse workforce.

At a minimum, staff is responsible for ensuring that work products are of known and documented quality, deemed acceptable for their intended use. Ultimately, we will be judged by how well these products and our programs meet the expectations and needs of our customers.

INTRODUCTION

Quality assurance (QA) may be defined as:

> An integrated system of management activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the customer.
>
> EPA Quality Manual for Environmental Programs, CIO 2105-P-01-0, May 2000

Formal, documented QA programs are a prerequisite for federal funding of environmental data activities. State law also requires formal QA programs for certain environmental activities. In other cases, the importance and complexity of environmental operations warrant implementation of formal QA programs.

This Quality Management Plan (QMP) documents and describes the organizational arrangements, processes, procedures, and requirements of TCEQ's QA program. Approval of the QMP by all of the agency's senior management reflects the agency's commitment to the principles and quality systems described in the document.

Appendix A describes the federally-funded programs governed by TCEQ's QA program. Appendix A may also include certain state-funded programs that operate according to requirements contained in this QMP.

The QMP is updated annually. Recipients of the QMP are responsible for keeping their copies available and up to date. Copies are issued to those staff whose work is directly related to the collection, analysis, and use of environmental data by TCEQ.

The QMP contains 10 sections organized to parallel federal guidelines and national standards:

- Management and Organization
- Quality System Components
- Personnel Qualification and Training
- Procurement of Items and Services
- Documents and Records
- Computer Hardware and Software
- Planning
- Implementation of Work Processes
- Assessment and Response
- Quality Improvement

The current version of the QMP is available electronically at:

https://www.tceq.texas.gov/assets/public/compliance/compliance_support/qa/qmp.pdf

For additional information concerning this QMP or other aspects of the TCEQ's quality system, please contact:

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LIST OF ACRONYMS AND ABBREVIATIONS

AEA	Atomic Energy Act
AMM	Analytical Method Modification
ANSI	American National Standards Institute
AQD	Air Quality Division
AQS	Air Quality System
ASQ	American Society for Quality
CATMN	Community Air Toxics Monitoring Network
CBBEP	Coastal Bend Bays and Estuaries Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund)
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
CRP	Clean Rivers Program
CWA	Clean Water Act
CWQMN	Continuous Water Quality Monitoring Network
DIR	Texas Department of Information Resources
DWSRF	Drinking Water State Revolving Fund
DQO	Data Quality Objective
EPA, also U.S. EPA	United States Environmental Protection Agency
EPA-QA/G-#	EPA Quality Assurance Guidance Document
EPA-QA/R-#	EPA Quality Assurance Requirements Document
FCAA	Federal Clean Air Act
FEM	Forum on Environmental Measurements (EPA)
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FJD	Functional Job Description
FOG	Field Operations Group (EPA)
GAP	Guide for Administrative Procedures Manual
GBEP	Galveston Bay Estuary Program
GIS	Geographic Information Systems
GPS	Global Positioning System
HRSS	Human Resources and Staff Services
IGR	Intergovernmental Relations (TCEQ)
IHW	Industrial and Hazardous Waste
IRD	Information Resources Division
IRM	Information Resources Manager
ISO/IEC	International Organization for Standardization/International Electrotechnical Commission
IT	Information Technology
ITSC	Information Technology Steering Committee
LUST	Leaking Underground Storage Tank
MARLAP	Multi-Agency Radiological Laboratory Analytical Protocols
MQ	Minimum Qualifications
MQO	Measurement Quality Objective
MSW	Municipal Solid Waste
NAAQS	National Ambient Air Quality Standards

(**List of Acronyms and Abbreviations, cont**.)

NATTS	National Air Toxics Trends Stations
NCore	National Core Multipollutant Monitoring Network
NEI	National Emissions Inventory
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NORM	Naturally Occurring Radioactive Material
NPS	Nonpoint Source
NRC	Nuclear Regulatory Commission
OA	Office of Air
OAS	Office of Administrative Services
OCE	Office of Compliance and Enforcement
OLS	Office of Legal Services
OOW	Office of Waste
OPP	Operating Policy and Procedure
OW	Office of Water
PAL	Process Asset Library
PAMS	Photochemical Assessment Monitoring Stations
PA/SI	Preliminary Assessment/Site Inspection
PPA	Performance Partnership Agreement
PPG	Performance Partnership Grant
PST	Petroleum Storage Tank
PWSS	Public Water System Supervision
QA	Quality Assurance
QAFAP	QA Field Activities Procedure (EPA)
QAP	Quality Assurance Plan
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMP	Quality Management Plan
QSA	Quality System Audit
RCRA	Resource Conservation and Recovery Act
RM	Radioactive Materials
RML	Radioactive Materials Licensing
SAP	Sampling and Analysis Plan
SDWA	Safe Drinking Water Act
SLAMS	State or Local Air Monitoring Stations
SIP	State Implementation Plan
SOP	Standard Operating Procedure
SWQM	Surface Water Quality Monitoring
SWQMIS	Surface Water Quality Monitoring Information System
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
TMDL	Total Maximum Daily Load
TNI	The NELAC Institute
TSA	Technical Systems Audit
UIC	Underground Injection Control
U.S.	United States
USGS	United States Geological Survey
WQA	Water Quality Assessment
WQS	Water Quality Standards

1. MANAGEMENT AND ORGANIZATION

Quality in environmental programs contributes to public health and safety, economic development, efficient use of public monies, technical credibility, and a recognition of excellence. The achievement of quality in environmental programs is the responsibility of each employee of the TCEQ.

This plan is intended to meet all applicable regulatory requirements concerning QA. The TCEQ programs governed by this plan are listed in Appendix A. Activities governed by this QMP include, in part, environmental data operations, characterization of environmental processes and conditions, design and construction of engineered environmental systems, environmental monitoring, laboratory analyses, and laboratory accreditation. Agency organizations and staff and external contractors are bound by all or part of the requirements delineated in this QMP, as appropriate.

TCEQ ORGANIZATION AND MISSION

The TCEQ is a regulatory agency of the State of Texas. Regulatory decisions are made by a three-member, quasi-judicial commission appointed by the Governor, with the advice and consent of the Texas Senate. Day-to-day operation of the TCEQ is delegated to an appointed Executive Director.

The TCEQ is organized into offices. With the exception of the Executive Director's office, offices are managed by Deputy Directors. Offices are composed of one or more divisions managed by Division Directors, except for Regional Areas which are managed by Area Directors and are composed of Regional Offices managed by Regional Directors. Divisions and Regional Offices are composed of one or more Sections, and Sections may be further divided into teams. Sections, teams, and work groups are managed by Section Managers, Team Leaders, and Work Leaders, respectively. The TCEQ has assigned authority for environmental grants, programs, and projects to grant, program, and project managers, respectively, and has designated lead QA staff for each environmental program.

RESPONSIBILITIES AND AUTHORITIES

The mission of the TCEQ and its component offices and divisions is described in Appendix B. Descriptions of personnel responsibilities are located in Appendix C. Lead organizations, QA staff, program managers, and grant managers are listed in Appendix D. Organization charts are located in Appendix E.

QUALITY ASSURANCE ORGANIZATION

The TCEQ uses a semi-decentralized QA program, relying on one organization to coordinate development and implementation of the agency-wide program and certain program quality systems, and on offices, divisions, and individual programs to implement other QA programs. The Monitoring Division, within the Office of Compliance and Enforcement (OCE), serves as the QA coordinating division for the TCEQ.

The TCEQ QA program is organizationally independent of operational programs and activities within the agency and has sufficient access and authority to coordinate development and implementation of the agency's quality system. The division's QA staff have access to all work areas and sufficient authority and organizational freedom to identify, initiate, recommend, and provide solutions to quality problems and to verify the implementation of solutions to problems.

Deputy and Division Directors have designated lead QA staff for each of the programs governed by this plan. (See Appendix D.) These staff also have access to related work areas and sufficient authority and organizational freedom to identify, initiate, recommend, and provide solutions to quality problems and to verify the implementation of solutions to problems.

With delegation from TCEQ's executive management, the TCEQ QA Manager has responsibility for oversight of the agency's QA program and its operations. Issues and questions regarding the agency QA program and its operations may be raised by agency QA staff, agency staff, and agency management to the TCEQ QA Manager. Resolution of quality-related disputes between individual program areas and the agency's QA staff are expected to be resolved at the lowest organizational level, i.e., agency QA staff, agency staff, or agency management. Quality-related disputes that cannot be resolved at the staff level will be elevated through the TCEQ QA Manager to the Director of the Monitoring Division. If disputes are not satisfactorily resolved at this level, the issues shall be elevated to the Deputy Director of Compliance and Enforcement, and subsequently to the Executive Director.

COMMUNICATION AND IMPLEMENTATION

Management ensures the agency quality system is understood and effectively implemented through program and project planning activities, the implementation of organizational and project-specific management controls, employee training programs, and ongoing assessment and quality improvement activities. These activities, programs, and controls are described in this QMP as indicated below:

- Program/project planning activities and organizational and project-specific management controls: Sections 2, 4, 5, 6, 7, 8 and Appendices A, C, D, F and G;
- Employee training: Sections 2 and 3;
- Assessment and response: Section 9; and
- Quality improvement: Section 10.

ANNUAL ASSESSMENT REPORT TO EXECUTIVE MANAGEMENT

The Monitoring Division provides an annual assessment report to executive management concerning the effectiveness of the quality system and the adequacy of resources for achieving quality. Agency management considers this assessment and other factors in determining response actions.

RESOURCES

Office and executive management will ensure that resources are adequate (i.e., meet customer needs and expectations) to achieve and maintain quality in environmental programs. Resource allocations for QA and quality control activities, including resources allocated to QA programs and personnel, are determined on an annual basis at the agency, office, division, and section level and are adjusted as necessary to achieve programmatic objectives.

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2. QUALITY SYSTEM COMPONENTS

The TCEQ has implemented a quality system designed to produce the type and quality of data needed and expected in environmental programs. Environmental data used in agency decisions will be of known and documented quality and will meet specific program- and project-level requirements. The system has been implemented for all programs listed in Appendix A.

The agency quality system includes the organizational arrangements, documents, and processes described in this QMP. This plan documents the system used to maintain the quality of work conducted by TCEQ, the lines of reporting and communication, and coordination mechanisms.

The quality system includes both organizational and project controls. The term "organizational controls" refers to activities that support common functions or functions that encompass several projects and programs. Project controls are specific to work programs and activities.

Environmental programs are administered and performed by qualified personnel using appropriate technologies and techniques. Qualifications of personnel are documented and both individual and program performance are regularly assessed. Personnel receive training in the responsibilities and duties and associated program elements, codes, standards, and procedures of the quality system. The training may include formal instruction, seminars, on-the-job training, participation in technical conferences, and other activities determined to be appropriate. Training needs and the achievement of training objectives are documented.

Management personnel maintain frequent contact with and are continually involved in monitoring elements of the quality system for which they are responsible. This contact and involvement are accomplished through meetings, reports, and contacts with technical, administrative, and other management personnel.

COMPONENTS

The TCEQ quality system includes components that establish requirements and specifications for environmental programs and projects, planning and implementation tools, and assessment and response activities.

Requirements and specifications are established in state and federal statutes, TCEQ rules (such as Title 30, Texas Administrative Code (TAC), Chapter 25, regarding laboratory accreditation and certification), other applicable rules, and state and federal requirements documents. Appendix A contains a list of applicable quality requirements documents TCEQ uses. Other requirements and specifications may be contained in Performance Partnership Agreements (PPAs), grant work plans, and contracts. Work activities for the environmental programs listed in Appendix A are planned using the U.S. Environmental Protection Agency's (EPA) data quality objectives process or a comparable systematic planning process, and are documented in quality assurance project plans (QAPPs) and/or various types of sampling and analysis plans. Appendix G contains procedures governing the development, approval, implementation, and maintenance of QAPPs.

The environmental programs listed in Appendix A are implemented according to specifications and instructions contained in grants and contractual agreements, this QMP, program or project QAPPs, sampling and analysis plans (SAPs), and standard operating procedures (SOPs). Section 5 describes procedures governing the development and use of quality-related documents and records. Section 8 describes how TCEQ ensures work is performed according to approved plans.

Assessments of environmental programs provide the information used in planning and implementing environmental programs and projects, for accrediting laboratories, and in improving the quality systems. TCEQ Operating Policy and Procedure (OPP) 18.09.01 specifies procedures for planning assessment programs, including planning considerations, types of assessments, and approval processes. TCEQ OPP 18.09.02 sets forth procedures for conducting QA audits. (See also Sections 9 and 10.)

EPA Field Operations Group (FOG) Operational Guidelines for Field Activities

In 2013, EPA issued "Guidelines for Field Activities" to establish national consistency in field activities and further promote the collection of reliable and defensible environmental data. The guidelines are based on EPA quality-related requirements and provisions in *ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories*. The guidelines are designed to ensure EPA field staff, grantees, and grantee contractors and subcontractors have quality systems that include documentation of the following components:

1. Personnel and Training
2. Document Control
3. Records Management
4. Sampling and Environmental Data Management
5. Field Documentation
6. Field Equipment
7. Field Inspection and Investigations
8. Reports
9. Internal Audits
10. Corrective Action

Although the FOG guidelines serve as guidance and not requirements for TCEQ, elements of the guidelines are already represented in TCEQ QAPPs and other agency QA documents. The TCEQ QA Manager will reference the guidelines in future reviews of program and project-specific QA documentation.

The guidelines are now incorporated into the EPA QA Field Activities Procedure (QAFAP).

3. PERSONNEL QUALIFICATION AND TRAINING

TCEQ personnel performing work on environmental programs shall be qualified to perform assigned work. Initial and ongoing personnel qualifications shall be determined, training needs shall be identified, access to appropriate training opportunities shall be provided, and the acquisition of needed knowledge, skills, and abilities shall be verified and documented.

FUNCTIONAL JOB DESCRIPTIONS

Agency management prepares Functional Job Descriptions (FJDs) for each TCEQ position. Each FJD includes a job description statement; a list of job functions and the percentage of time devoted to each function; physical and environmental demands and hazards; and cognitive, communication, and other job-related demands. The Human Resources and Staff Services (HRSS) Division maintains the FJDs. (See TCEQ OPP Chapter 10.01.)

MINIMUM QUALIFICATIONS

The agency establishes minimum qualifications (MQs) through the collaborative efforts of program, management, and HRSS staff. Each agency job specification includes the MQs, which establish educational requirements, work experience, and any required licenses; knowledge, skills, and abilities; career ladder time-in-grade requirements; and other requirements specific to individual job classifications. (See TCEQ OPP Chapters 10.02 and 10.04.)

Career ladders are in effect for 21 occupational specialties. HRSS maintains the career ladder structures, and divisions maintain documentation of individual employee progress on the ladders. (See TCEQ OPP Chapter 10.04.)

EMPLOYEE TRAINING NEEDS

Training needs are determined annually on an agency-wide basis through a needs assessment process and on an individual basis by supervisors in consultation with employees. Training needs are based on statutory requirements, management directives, career ladder requirements, SOPs, QAPPs, and annual employee performance appraisals. (See TCEQ OPP Chapter 16.01 and TCEQ Guide for Administrative Procedures (GAP) Manual, Section 4A.)

Supervisors document training needs in a Career Enhancement Feedback and Plan for each employee, as part of the performance management system (See TCEQ OPP 10.02). The Career Enhancement Feedback and Plan identifies training and developmental needs to enhance or improve an employee's current performance and to enhance career opportunities for the employee. Training may include courses from core curricula and/or technical, QA, operational, general work skills, staff development, and management development categories. Additional training needs may be specified in QAPPs.

TRAINING PROGRAMS

The HRSS Training Unit develops training programs and offers courses based on needs assessments and input received from programs.

Training staff design programs using industry-standard Instructional Systems Design methods. They identify qualified training vendors for specific courses on the basis of proposals and demonstrated competence. Written evaluations, observation, and participant feedback are used to assess course content and instructor effectiveness.

Employees and supervisors determine whether training programs and courses offered outside of the TCEQ by educational institutions, professional associations, and other providers are useful for enhancing job performance or professional development. These programs and courses may include such activities as instructional courses, seminars, professional meetings, and workshops. Training specialists provide consultation and assistance as needed in assessing these programs and courses.

TRAINING RECORDS

HRSS maintains records of job-related training. Program divisions, sections, or supervisors also maintain individual training information for their staff members.

DEMONSTRATION OF COMPETENCY

In 2013, EPA issued directive FEM 2012-02 Revision.1, requiring organizations generating or using environmental measurement data under certain EPA-funded assistance agreements to submit documentation of their competency prior to performing new grant-funded work. The directive is effective for grants totaling more than $200,000, and issued or renewed on or after October 1, 2013. The goal of the directive is to ensure organizations (and their grantees/contractors) performing environmental data operations have effective quality management systems and the technical competence to generate valid environmental data.

Each TCEQ grant program will include a statement of competency in its grant work plan and in program/project QA documents. TCEQ will also demonstrate compliance with this directive through laboratory accreditation and documentation of field and other competencies in program and project QA documents. This demonstration may include, but is not limited to:

- Maintaining records of current organizational charts and position descriptions for pertinent TCEQ staff, contractors, and subcontractors, along with major responsibilities and qualifications (e.g., position descriptions, training certificates, degrees, and active participation in QA associations as noted in TCEQ QA documents or contractor/subcontractor files);
- Confirming through the annual QA report that the QMP and applicable QAPPs are being followed, and documenting the training TCEQ staff received for the year;
- Ensuring that training records are maintained in TCEQ files or in contractor and subcontractor files; and
- Maintaining reported results of internal and external audits and assessments of the programs, including open and closed corrective/preventive actions.

The TCEQ QA Manager will ensure implementation of the directive through coordination with the TCEQ Budget and Planning Division, and with individual programs.

QUALITY ASSURANCE TRAINING

QA training currently consists of the following courses offered by EPA Region 6 and TCEQ:

1. ASQ/ANSI E-4 Quality Systems for Environmental Data and Technology Programs
2. Quality Project and Program Management
3. Quality Systems Assessment Workshop
4. QA for Managers
5. QA Refresher
6. Project Management Training
7. Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP)

SAFETY TRAINING

Staff who use and handle hazardous chemicals must receive training on the agency's Chemical Hygiene Plan and may be required to receive other training, e.g., respirator fit testing. Regional and some central office field staff participate in regular safety meetings covering a variety of topics, including use of chemical reagents, hazard communication, emergency evacuation, and safety equipment checks.

There are special hazards associated with handling radioactive materials. As such, the TCEQ strongly recommends that the Radioactive Materials Division and/or the Critical Infrastructure Division's Radioactive Materials Compliance Team be contacted so that a health physicist experienced in radiation measurement and protection can be assigned and used for consultation prior to initiation of any activities at a site suspected of being contaminated with radioactive substances. In addition, 40-hour Radiation Safety training is recommended for staff visiting or inspecting sites where possible radioactive materials exist. Training is provided by the U.S. Nuclear Regulatory Commission (NRC), the EPA Region 6, or the TCEQ.

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4. PROCUREMENT OF ITEMS AND SERVICES

The procurement of items and services will be controlled and documented to ensure conformance with specified requirements, i.e., that contracted and subcontracted activities produce results of acceptable quality. Requirements and specifications will be included or referenced in procurement documents. The acceptability of purchased items and services will be verified and documented.

AUTHORITY AND PROCEDURES

Statutory requirements concerning procurement are contained in Texas Government Code, Chapters 771, 783, 791, 2155, 2156, 2157, 2158, 2161, 2252, 2254, 2260, 2261 and 2262. Additional regulatory guidance is contained within 30 TAC Chapters 11, 14 and 20.

Procurement procedures are documented in Chapter 2.00 and 3.00 of the TCEQ OPP Manual. Additional procedures governing grants and contracts are documented in the TCEQ GAP Manual. These documents describe assignments of authority and procedures for planning and approving procurements, determining specifications and requirements to be included in procurement documents, selecting vendors, awarding procurements, and accepting purchased items and services. (See TCEQ GAP Manual, Sections 2A, 2C, 2D, 2E, and 2M.)

PROCUREMENT DOCUMENTS

All procurements are defined in writing in one or more procurement documents (such as purchase orders, invitations for bid, requests for proposals, and procurement contracts). These documents specify tasks and product specifications and technical, quality, administrative, and other requirements. All procurements are approved prior to issuance. (Note: Approval requirements vary depending on the nature and cost of the item or service being purchased. See TCEQ GAP Manual, Section 2M.)

TECHNICAL REQUIREMENTS

Technical requirements are determined by program managers, or designees, and included in procurement documents. Purchases of information technology products and services are also reviewed and approved by Information Resources Division (IRD) staff.

QUALITY ASSURANCE REQUIREMENTS

QA requirements are determined by program managers, or designees, with the assistance of QA staff, legal staff, Procurement and Contracts (P&C) staff, and others. When necessary, QA requirements are included in procurement documents. These documents include or reference general and specific terms and conditions, design requirements, and certifications as appropriate. The documents also include other requirements to assure adequate quality and, to the extent necessary, require suppliers, contractors, and subcontractors to have QA programs consistent with the TCEQ program.

Procurement documents may include pre- and post-award source inspections, supplier audits, readiness reviews, evaluations of objective evidence of quality furnished by the supplier, acceptance testing, and other requirements determined by Division Directors, or designees, to be appropriate.

CHANGES TO PROCUREMENT DOCUMENTS

Changes to procurement documents generally receive the same reviews and approvals as original procurement documents. Contract changes are approved based upon the type of change, i.e., scope of work change, increase/decrease in contract amount, extension or renewal of contract end date. (See GAP Manual, Section 2M.)

SOLICITATION RESPONSES AND SUPPLIER SELECTIONS

Responses to solicitations are reviewed by Division Directors, or designees, using written score or evaluation sheets in many situations. These sheets specify technical, quality, and other criteria used to evaluate the adequacy of responses to solicitations, to qualify potential suppliers, and to select vendors.

ACCEPTANCE OF ITEMS AND SERVICES

Items and services received from suppliers are evaluated upon delivery against acceptance criteria (i.e., task, product, and technical specifications, and technical, quality, administrative, and other requirements) contained in procurement documents. Program managers, or designees, determine whether acceptance criteria have been met and whether items and services are adequate and appropriate for use.

Items and services that do not meet acceptance criteria are not accepted for use. Corrective actions are initiated in accordance with state statutes, contract provisions, and TCEQ procurement procedures. Corrective actions may range from repair or replacement of defective deliverables to re-award of procurements.

5. DOCUMENTS AND RECORDS

Documents that specify requirements and instructions affecting the quality of environmental programs shall be adequate for the intended purpose and shall be controlled. QA records will be produced, controlled, and maintained so as to reflect the achievement of the required quality for completed work and to fulfill statutory, regulatory, and contractual requirements.

Requirements concerning documents and records are contained in the following:

- Texas Government Code Chapters 441 and 552;
- Texas Penal Code Section 37.10; and
- TCEQ OPP 13.02.

(See also Texas State Library, *State Records Management Laws*, State Agency Bulletin Number Four.)

QUALITY ASSURANCE DOCUMENTS

Documents that specify quality-related requirements and instructions include:

- TCEQ QMP;
- QAPPs;
- SAPs, Continuous Water Quality Monitoring Network (CWQMN) project plans, and Surface Water Quality Monitoring (SWQM), Water Quality Assessment (WQA), and Water Quality Standards (WQS) quality assurance plans (QAPs);
- contracts and work orders;
- data management plans;
- administrative OPPs;
- quality manuals;
- technical SOPs, including organization/program-specific QA procedures; and
- program guidance documents.

QMPs and QAPPs are prepared, reviewed, approved, distributed, maintained, and revised according to procedures described in Appendices F and G, respectively. SAPs and other project planning documents are prepared, reviewed, and approved according to program requirements.

TCEQ OPPs are developed, revised, and deleted in accordance with TCEQ OPP 1.00 and Chapter 1 of the GAP Manual. TCEQ OPP 1.00 also contains procedures for both interim and expedited OPPs.

The TCEQ has not adopted written agency procedures governing the review and approval of SOPs (including QA procedures). Generally, SOPs are proposed, reviewed, and approved by staff and managers of relevant areas of the agency (e.g., surface water quality monitoring). Staff involved in execution of SOPs should be involved in SOP development and revision. SOPs for collection, analysis, and validation of environmental data developed in accordance with program requirements are reviewed during use and at other times, such as during the development of QAPPs or on regular program schedules. SOPs are to reflect current practices. As requested or necessary, agency QA staff may participate in the review and approval process.

Revisions to SOPs are made as necessary and reviewed in the same manner as new SOPs or as specified in other procedures. New SOPs and revisions to existing SOPs are uniquely identified. Each new SOP (and revision of an existing SOP) must be approved, prior to issuance, by the Division Director, or designee(s), and division or agency QA staff where appropriate. SOPs will conform to *Guidance for the Preparation of Standard Operating Procedures (SOPs) for Quality-Related Documents* (EPA QA/G-6) and/or to the *TNI Standard Volumes 1 and 2 (2009),* and will address or include the following, as appropriate:

- purpose;
- scope and applicability;
- personnel qualifications/training;
- definitions;
- procedure(s);
- safety;
- records;
- references; and
- tables, diagrams, flowcharts and forms

The QA Manager will coordinate development of agency-wide QA procedures. At a minimum, the QA Manager will develop and maintain procedures for:

- review, approval, distribution, revision, and control of agency-wide QA procedures;
- review, approval, distribution, revision, and control of agency QMPs;
- review, approval, distribution, revision, and control of QAPPs; and
- training and certification of the QA Manager, QA specialists, and quality system auditors.

Division Directors or their designees shall determine and document assignments of authority and procedures concerning the development, distribution, and maintenance of SOPs for their respective programs. Division Directors or their designees are responsible for ensuring and communicating that new SOPs are available to staff and for ensuring that obsolete SOPs are removed from all points of issue or use.

QUALITY ASSURANCE RECORDS

QA records are items that furnish objective evidence of the quality of items or of activities that have been verified and authenticated as technically complete and correct. QA records may include photographs, drawings, forms, reports, and electronically recorded data.

OFFICIAL STATE RECORDS

Assignments of authority and procedures concerning the identification, verification, authentication, handling, retention, and disposition of (documents and) records needed to safeguard the legal and financial rights of the State of Texas and any person directly affected by activities of the TCEQ are contained in TCEQ OPP 13.02. Division Directors, or their designees, oversee and implement management of division records and other operations, including fulfillment of statutory, regulatory, and contractual requirements for environmental programs. They are to establish appropriate controls for the protection of confidential and sensitive information, and to determine which records are needed to reflect the achievement of required quality for completed work.

Records produced by TCEQ and maintained as official records of the State of Texas are documented in the agency Records Retention Schedule. The TCEQ Records Retention Schedule can be viewed by agency staff at:

https://tceq.sharepoint.com/sites/OAS/ir/rm/Pages/records-retention.aspx

The QA Manager, or designees, shall maintain QA records relating to the agency quality system and ensure that these records are identified in the Records Retention Schedule. Program managers, or designees, shall maintain QA records relating to their respective programs and ensure that these records are identified in the Records Retention Schedule. Project managers, or designees, shall maintain QA records relating to their respective projects and ensure that these records are identified in the Records Retention Schedule. These individuals shall specify the location of and procedures for identifying, verifying, authenticating, handling, retaining, and disposing of these records and shall also maintain an up-to-date listing of all types of QA records relating to their respective areas of responsibility.

Documentation identifying environmental activities subject to quality system requirements is maintained by the Federal Funds Section of the Budget and Planning Division and by program management. Cognizant federal officials (e.g., EPA Region 6 Project Officers) communicate requirements directly to the Federal Funds Section and to agency program management through the use of grant documents.

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6. COMPUTER HARDWARE AND SOFTWARE

Computer hardware, software, and networks used to manage data for environmental programs shall be controlled to ensure reliable stewardship of the data.

ADOPTION OF AND CHANGES TO INFORMATION TECHNOLOGY STANDARDS

Information technology (IT) standards, and changes to the standards, are approved by the Information Technology Steering Committee (ITSC) or the Information Resources Manager (IRM). Changes to the agency standards can be initiated through the agency's IT governance structure to meet internal needs, legislative and regulatory mandates, and other oversight entity requirements.

HARDWARE

Workstations

The Customer Support Center in the IRD maintains workstation standards. The standards specify the minimum configuration with sufficient performance to run the agency's standard software and operate on the local-area networks. Systems smaller than the minimum standard are routinely replaced.

The Customer Support Center tests examples of each configuration before large orders are placed. All such systems are purchased by the IRD following the same specifications, and are set up and installed by the Customer Support Center.

The IRD Director or agency IRM must approve all deviations from standard workstation configurations. Before deviations will be approved, IRD staff must verify that (1) there is a business need for a system with special characteristics, (2) the proposed systems will meet the special need, and (3) the proposed systems can be supported using available resources.

Servers Managed by TCEQ, and Network Components

The Infrastructure Management Section develops specifications for servers and network devices to meet the service requirements of the applications to be supported and conform to the interface standards in place within the agency's environment.

Servers Managed by Data Center Services Contractor

Standards for servers managed by the Data Center Services contractor under a contract with the Texas Department of Information Resources (DIR) are set by the contractor. The TCEQ accesses these services through an interagency contract with the DIR.

Exceptions

Exceptions to hardware standards set by TCEQ must be approved by the IRM. Exceptions will be approved only if the business need justifies any additional risk or resource requirements.

SOFTWARE

Software Developed by TCEQ

TCEQ software development and acquisition projects adhere to the agency's Process Asset Library (PAL), a centralized repository of processes, practices, tools, and templates. The PAL adheres to the DIR's Project Delivery Framework, Project Management Institute's Project Management Body of Knowledge, and the Software Engineering Institute's standards and processes. Agency staff assigned to manage IT projects and develop software are required to follow the PAL. This ensures a consistent model by which IT projects are managed and IT products are developed and acquired.

Purchased Major Applications

Projects that purchase major applications also follow the appropriate software development industry standard methodologies and the agency PAL suitable to the scale of the projects.

Software Development and Application Tools

Requirements for software development and application tools are defined by the IRD. Tools must conform to the architecture defined by the Technical Architecture Committee, and specific software titles must be approved by the IRM.

Desktop Software

To minimize support requirements and reduce costs through site licenses, a standard suite of office software and some other standard programs are specified by the IRM. Most such software is configured and installed using automated tools.

DATA AND INFORMATION

The responsibility for data quality lies with the program organization, regardless of whether the information is produced from or collected by computers. During software development, the requirements for data quality are captured, and the inspection and testing procedures ensure that the software delivered meets those requirements.

Teams throughout the agency implementing Geographic Information Systems (GIS) follow DIR and Texas Geographic Information Council quality standards for GIS data.

TCEQ has an Information Security Program in accordance with Title 1, TAC Chapter 202 to ensure the confidentiality, integrity, and availability of agency data and information.

CHANGE MANAGEMENT

Changes to hardware and software configurations are controlled by change management processes. For systems managed by the Data Center Services provider, the service provider takes primary responsibility for change management with participation by agency personnel. For systems managed by the agency, agency personnel take primary responsibility.

Change management processes, whether managed by the agency or by the service provider, include the following steps:

1. Assemble all the components required for the change.
2. Develop a detailed technical plan for the change.
3. Develop a proposed schedule for the change, including arranging for required personnel.
4. Gain approval for the change from the change management board.
5. Notify affected users and organizations.
6. Implement the change at the scheduled time, following the technical plan.
7. Record the outcome of the change implementation.

The technical plan for the change includes the following elements:

- The actions the team will take to implement the change;
- Tests the team will execute to tell whether the change was successful and all components are back in correct operation; and
- Recovery processes to repair problems or back out the change if one or more of the tests fail.

Integrity of systems during changes, including hardware, software, data, and communications systems, is the responsibility of one or more of the following: project team and sponsors, maintenance review teams, application change control boards, and program area IT representatives.

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7. PLANNING

Environmental programs shall be planned in accordance with state and federal laws and rules, Agency policies and procedures, and contractual requirements.

REQUIREMENTS

Organizational and programmatic requirements concerning environmental programs are defined in statutes enacted by the Texas Legislature and Congress, rules promulgated by TCEQ and federal agencies, and agency policies and procedures (negotiated specifications that support and/or enable business processes). These documents determine goals, establish stakeholder and customer relationships, and define needs and expectations for environmental programs implemented by TCEQ.

SPECIFICATIONS

Environmental programs and projects are planned through the development of the agency strategic plan, organizational business plans and budgets, PPAs, grant work plans, QAPPs (and SAPs), assessment plans, and contracts executed by TCEQ and external organizations. These documents translate requirements and expectations into measurable specifications, commitments, and performance criteria.

CAPITAL, COST, AND SCHEDULE CONSTRAINTS

Capital outlay and cost and schedule constraints are taken into consideration during the development of the TCEQ strategic plan, the biennial operating plan, the biennial budget request to the Texas Legislature, and negotiations for federal assistance agreements. Funds and capital outlay for environmental programs are appropriated on a biennial basis by the Texas Legislature and allocated annually by TCEQ management during preparation of the agency operating budget.

PROJECT PLANNING

Projects involving the generation, acquisition, and use of environmental data shall be planned through the development of QAPPs, SAPs, CWQMN project plans, QAPs, or other planning documents. These documents shall be developed by project managers, QA staff, technical staff, management, and contractors using a systematic planning process, such as the data quality objectives (DQO) process, as defined in *Guidance for the Data Quality Objectives Process*, EPA QA/G-4, or comparable alternative.

DQOs may be applied to most data collection activities associated with a project or program. In particular, DQOs should encompass the total uncertainty resulting from sampling and analysis activities. From an analytical perspective, a process of developing the analytical data requirements from the DQOs of a project is essential. These analytical data requirements serve as measurement performance criteria or objectives of the analytical process, and are often referred to as measurement quality objectives (MQOs).

Radiochemistry projects employ MARLAP, NUR-1576. The MARLAP Manual provides guidance on developing MQOs from the overall project DQOs during project planning for select method performance characteristics, such as: method uncertainty at a specified concentration; detection capability; quantification capability; specificity, or the capability of the method to measure the analyte of concern in the presence of interferences; range; and ruggedness.

Underground Injection Control (UIC) projects, including those that involve radionuclides, will follow planning and procedures designated in the Resource Conservation and Recovery Act (RCRA)/UIC QAPP.

TCEQ project planning activities (e.g., planning meetings) are intended to:

- identify users;
- ensure that data collected are of the type and quality appropriate to their intended use;
- generate the sampling design (e.g., what, when, where, and how to collect samples);
- ensure data management processes and procedures are documented (e.g., data coding, submittal, receipt, review, verification, validation) to ensure acquired (existing) data will be appropriate for their intended use; and
- optimize the data collection effort by promoting communication and gathering input from all involved parties.

QAPPs shall conform to requirements contained in *EPA Requirements for Quality Assurance Project Plans*, EPA QA/R-5. Other project planning documents will conform to program requirements which include adherence to the principles of EPA QA/R-5.

8. IMPLEMENTATION OF WORK PROCESSES

Environmental programs shall be conducted so as to ensure that customer needs and requirements are met and products and results are produced in a timely manner. Environmental programs conducted by or on behalf of the TCEQ shall be implemented in accordance with approved plans. Exceptions, deviations, and changes to these plans shall be approved and documented prior to implementation.

The TCEQ ensures environmental work is performed according to plan through the following:

- implementation of a formal QA program;
- program and project planning;
- staff development and training; and
- ongoing oversight of performance.

The quality system implemented by TCEQ is described in Sections 1 and 2 and elsewhere in this QMP. Program and project planning inputs, processes, and results are described in Sections 5 (QA documents and records) and 7 (customer requirements, specifications, cost and schedule constraints, and project planning) of the QMP. Staff development and training activities are described in Section 3 of the QMP. Assessment and response (oversight) programs implemented by TCEQ are described in Sections 9 and 10 of the QMP.

IMPLEMENTATION SCHEDULE

The agency's QMP is revised annually or more frequently, if necessary. Annual and multi-year QAPPs are prepared and revised as necessary according to Appendix G. The QA Manager shall monitor the status of QAPPs and shall report to the lead Deputy Director (Appendix D) within 15 days of discovering any environmental data operations that do not have current, approved QAPPs.

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9. ASSESSMENT AND RESPONSE

An assessment and response program designed to measure the effectiveness of the agency quality system shall be developed and implemented. Assessment results will be reported to appropriate management, supervisory, and other personnel for review and action as necessary. Follow-up actions will be taken where appropriate.

Environmental grant, program, and project managers maintain regular contact with participating organizations and staff as well as customers. Environmental work activities are reported to division, office, and executive management on a monthly basis. The results of these work activities are measured by TCEQ and external organizations against specifications contained in approved plans on a semi-annual and annual basis through reports prepared by these individuals and others.

The TCEQ has also implemented formal assessment programs for the environmental programs listed in Appendix A.

ASSESSMENTS

Assessments may be used to determine or assist in determining:

- adequacy - whether an item or activity meets requirements;
- compliance - whether an item or activity is being implemented as specified;
- readiness - whether the status of an item or activity warrants start-up or continued use of a facility, process, or activity;
- effectiveness - whether an item or activity achieves desired results; and
- verification - whether corrective action has been planned, initiated, or completed.

The TCEQ has defined the following ten types of assessments:

- readiness reviews;
- surveillances;
- inspections;
- quality system audits;
- management systems reviews;
- technical systems audits;
- peer reviews;
- technical reviews;
- data quality assessments; and
- audits of data quality.

ASSESSMENT PLANNING

QA assessments are planned and documented in accordance with TCEQ OPP 18.09.1. Appendix C of this document outlines responsibilities for planning assessments.

ASSESSMENT CONDUCT

QA assessments are conducted in accordance with OPP 18.09.2 and/or with approved program SOPs. Appendix C of this document outlines responsibilities for scheduling and conducting assessments.

REVIEW AND EVALUATION OF ENVIRONMENTAL DATA

Environmental data acquired by the programs listed in Appendix A shall be evaluated and approved prior to use. The data used by those programs shall be assessed against the data quality objectives defined in the QAPP, SAP and/or other project planning document, and the data quality shall be known and documented. These data include data acquired under QAPPs or equivalent planning documents, as well as data acquired or generated outside an approved QAPP or QA program.

Data review, and, if applicable to project requirements, data validation procedures shall be documented in the appropriate QAPP. The detail of these procedures shall document the decision process, the factors governing the qualification of data, and the meaning of any codes used to qualify data. The decision to qualify the data for their intended use shall be based on reconciliation with the performance measures for the project defined by the data quality requirements. Any limitations on data use shall be identified quantitatively to the extent practicable and fully documented.

The evaluation of data shall be performed to document that the data acquired by the programs listed in Appendix A are of sufficient and documented quality to meet the project objectives defined in the QAPP, SAP, and/or equivalent planning document. The assessment of data shall include the correct application of statistical methods as appropriate during the assessment process.

PEER REVIEW OF PROJECT REPORTS

Reports containing environmental data or reporting the results of environmental data operations shall be independently reviewed and approved prior to publication and formal distribution. The reports and method(s) of review, approval, and distribution shall be identified in the appropriate QAPP.

Environmental data included in any report are subject to later revisions following publication and formal distribution. These revisions are unavoidable artifacts of the continuous data quality assurance process. TCEQ staff will make every effort to maximize confidence in reports containing environmental data. The reports will be technically sound and coherent.

EPA ASSESSMENTS

EPA-sponsored programs are subject to review at any time. Formal assessment of performance under EPA assistance agreements occurs as part of a comprehensive review and evaluation of TCEQ programs. The process is governed by EPA's Policy on Oversight of Delegated Programs, which states evaluations should focus on overall program performance, rather than individual actions and should be based on objective measures and standards agreed to in advance. This policy provides a framework within which EPA and TCEQ can clarify performance expectations and solve problems through a system of negotiation according to a predictable but flexible set of national guidelines. The policy

describes the components of assistance agreements and how they are to be negotiated, lays out EPA's expectations for the review and evaluation of assistance agreements and escalation of significant findings, and describes how EPA will respond to the findings. The latter includes rewarding strong performance, applying corrective action to solve problems, escalating significant conflicts to top management, and, in cases of persistent performance problems, imposing sanctions.

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10. QUALITY IMPROVEMENT

Quality system deficiencies shall be prevented wherever possible. Identified deficiencies shall be documented and corrected in a timely manner. Corrective actions will be verified to ensure timely and effective implementation. Efforts will be made to improve quality systems continually.

Systems, documents, and tools described in preceding sections summarize the approach taken by TCEQ to plan, organize, implement, document, monitor, and assess quality systems for environmental programs. All personnel working on environmental programs are encouraged to identify, plan, implement, document, and evaluate quality improvement activities for their areas of responsibility. Personnel should prevent quality problems wherever possible, report problems as they occur, and identify opportunities for improvement.

CORRECTIVE ACTIONS

TCEQ has not adopted written agency procedures governing corrective actions. The following paragraphs describe existing agency practice and standards.

Identification of Quality System Deficiencies

A deficiency is defined as any unauthorized deviation from acceptable procedures or practices, a defect in an item, or failure to conform with a specified requirement.

Deficiencies shall be reported by TCEQ personnel in writing to supervisory personnel. Supervisory personnel shall forward reports of deficiencies to the appropriate project manager and lead QA staff. Lead QA staff shall determine whether or not deficiencies are significant conditions as defined in Appendix H of the QMP, including cases in which deficiencies recur after having been identified and previously corrected. Project, program, and organizational managers may also determine whether deficiencies are significant conditions. Lead QA staff shall notify affected Division Directors, Section Managers, Grant and Program Managers, and the QA Manager of any significant conditions. If Lead QA staff and project, program, or organizational management disagree as to the determination of significant conditions for a deficiency, any of the parties may appeal to the TCEQ QA Manager for resolution.

Planning and Implementing Corrective Actions

With the concurrence of affected lead QA staff, project managers or designees shall determine and document the following with regard to each deficiency:

- root cause(s);
- programmatic impact;
- required corrective action(s);
- required corrective actions(s) to prevent recurrence;
- means by which corrective actions will be verified as effective;
- means by which corrective action completion will be documented;
- timetable(s); and
- individual(s) responsible.

Within 30 days of the initial deficiency notice, the project manager or designees shall forward copies of corrective action plans to supervisory and lead QA staff (Appendix D) involved in implementing or monitoring corrective actions. Lead QA staff shall forward copies of corrective action plans concerning significant conditions to affected Division Directors, Section Managers, Grant and Program Managers, and the QA Manager. Supervisory staff shall ensure corrective action plans are implemented effectively and in a timely manner.

Lead QA staff shall monitor the implementation of corrective action plans and shall advise the appropriate project and program manager if the plans are not implemented in a timely manner. In the case of significant conditions, lead QA staff shall also advise the appropriate Section Manager, Division Director, and the QA Manager if corrective action plans are not implemented in a timely manner.

Lead QA staff shall advise the project manager, and, in the case of significant conditions, shall also advise the appropriate Section Manager, Division Director, Program Manager, and QA Manager when corrective action plans are completed.

Trend Analysis and Annual Reporting

At least annually, lead QA staff (Appendix D) shall review quality-related deficiencies, and programmatic improvements and advise the affected Project Manager, Program Manager, lead Division Director, and QA Manager of any significant trends.

At least annually, the QA Manager shall review quality-related deficiencies, and programmatic improvements and advise the Executive Director of any significant trends affecting the agency QA program. Annually, the QA Manager shall also provide the Executive Director and EPA Region 6 QA Manager with a report describing the status of the QA program.

STOP WORK ORDERS AND WORK SUSPENSIONS

The Executive Director and Deputy Directors, or designees, are authorized to stop work as necessary to safeguard programmatic objectives, worker safety, public health, and environmental protection.

The Executive Director or his designees may refuse to accept data and analyses from laboratories to maintain compliance with programmatic requirements and specifications. The commission may suspend or revoke the accreditation of a laboratory which no longer satisfies requirements for accreditation.

OUTREACH AND ASSISTANCE

The QA Manager will maintain a close liaison with lead QA staff and may meet at least annually with EPA and TCEQ offices concerning QA matters. Lead QA staff will provide technical assistance to regulated entities as time and resources permit and to the public and agency staff when requested.

Appendix A:

APPLICABLE PROGRAMS; REGULATORY REQUIREMENTS AND GUIDANCE DOCUMENTS

APPLICABLE PROGRAMS

The TCEQ has implemented a formal QA program for environmental operations related to the programs described below.

Air Quality: Federal Clean Air Act (FCAA), Sections 103(b) and 105

- Community Air Toxics Monitoring Network (CATMN)
- National Air Toxics Trends Stations (NATTS)
- National Core Multipollutant Monitoring Network (NCore)
- National Emissions Inventory (NEI)
- Pantex Nuclear Weapons Facility Ambient Air Monitoring
- Particulate Matter 2.5 ($PM_{2.5}$) Ambient Air Monitoring Network
- Photochemical Assessment Monitoring Stations (PAMS) Network
- State or Local Air Monitoring Stations (SLAMS) Network and U.S./Mexico Border Support Activities for Air Monitoring in Texas

Waste:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); Atomic Energy Act (AEA); Underground Injection Control (UIC) – Safe Drinking Water Act (SDWA)

- Brownfields (CERCLA-Brownfields Amendments)
- Federal Superfund (CERCLA)
- Industrial and Hazardous Waste (IHW) Program (RCRA Subtitle C)
- Leaking Underground Storage Tanks (LUST) Program (RCRA Subtitle I)
- Preliminary Assessment/Site Inspection (PA/SI) Program (CERCLA)
- Radioactive Materials Licensing (RML) and Uranium Licensing and Permitting (NRC)
- UIC (Though program is authorized by the SDWA, hazardous waste functions must also meet rules of the RCRA IHW program.)

Water Quality: Clean Water Act (CWA), Sections 106, 319, 320, and 604; Texas Clean Rivers Act

- Clean Rivers Program (CRP)
- Coastal Bend Bays and Estuaries Program (CBBEP)
- Continuous Water Quality Monitoring Network (CWQMN)
- Galveston Bay Estuary Program (GBEP)
- Groundwater Assessment
- Nonpoint Source Program (NPS)
- Surface Water Quality Monitoring (SWQM)

- Total Maximum Daily Load Program (TMDL)
- Water Quality Assessment (WQA)
- Water Quality Standards (WQS)

Public Drinking Water: Safe Drinking Water Act (SDWA)

- Public Water System Supervision (PWSS)

Other Programs

- Analytical Method Modification (AMM) Program
- Field Operations
- Laboratory Accreditation

The following paragraphs describe the scope of TCEQ QA programs in greater detail:

Air Quality

Community Air Toxics Monitoring Network (CATMN)

This monitoring effort, funded by the state of Texas, primarily involves collecting samples of volatile organic compounds (VOCs) and related meteorological information for designated sites. This program was the agency's response to public concern about airborne toxic pollutants and a mandate for community toxics monitoring from the Texas Legislature. The primary goal of the CATMN program is to determine community exposure to toxic organic compounds and their potential to cause long-term health effects.

National Air Toxics Trends Stations (NATTS)

The primary purpose of the NATTS network is tracking trends in ambient air toxics levels to facilitate measuring progress toward emission and risk reduction goals.

Twenty-four hour, time-integrated samples are collected every sixth day and analyzed for particulate metals, VOCs, carbonyls, and polycyclic aromatic hydrocarbons (PAH). Meteorological parameters are continuously monitored for wind speed average, wind speed resultant, wind direction resultant, and temperature.

National Core Multipollutant Monitoring Network (NCore)

The NCore network integrates several advanced measurement systems for particulates, pollutant gases, and meteorology. The stations in this network replace the former National Air Monitoring Station network and collect data at lower detection limits for several pollutants.

National Emissions Inventory (NEI)

The NEI is the current official electronic repository for emissions inventory data submitted to EPA as required by the federal Air Emissions Reporting Requirements. The NEI stores emissions data for every county in the state on all components of the inventory: point sources, area sources, on-road mobile sources, non-road mobile sources, and biogenic sources. Automated reporting to the NEI occurs every year for major point sources and every three years for area sources, on-road mobile sources, and non-mobile sources with the submittal of the Periodic Emissions Inventories. Emissions data submitted to the NEI are available on an EPA public web site.

Pantex Nuclear Weapons Facility Ambient Air Monitoring

This program involves air quality monitoring in the vicinity of the Pantex facility. The TCEQ conducts this monitoring under contract with the U.S. Department of Energy through the Texas Governor's Office.

Particulate Matter 2.5 ($PM_{2.5}$) Ambient Air Monitoring Network

Activities for this program support the statewide monitoring of particulate matter of 2.5 micrometers or less in diameter. The primary goal of the program is to compare the $PM_{2.5}$ concentrations collected, as mass, to the annual and 24-hour National Ambient Air Quality Standard (NAAQS). The network consists of sequential and continuous monitors deployed statewide, operating continuously or on either a daily, every-third-day, or every-sixth-day schedule.

Photochemical Assessment Monitoring Stations (PAMS) Network

The PAMS network consists of ambient air monitoring stations that collect data for ozone (O_3), its precursors, and associated meteorological parameters in nonattainment areas classified as serious, severe, or extreme. Ambient analyses of O_3 and O_3 precursors are used to make attainment/nonattainment decisions; aid in tracking VOC, non-methane organic compounds (NMOC), carbonyl, and oxides of nitrogen (NO_x) emission inventory reductions; better characterize the nature and extent of ambient O_3 concentrations; and determine air quality trends. In addition, data from the PAMS network provide an improved dataset for evaluating photochemical model performance, especially for future control strategy mid-course corrections as part of the continuing air quality management process.

SLAMS Network and U.S./Mexico Border Support Activities for Air Monitoring in Texas

State or Local Air Monitoring Stations (SLAMS) and the federally-funded portions of Texas border monitoring activities are performed by the TCEQ and five local agencies in Dallas, El Paso, Fort Worth, Galveston County, and Houston to determine compliance with the NAAQS. SLAMS monitoring includes the federal criteria pollutants: Ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), particulate matter of 10 microns or less (PM_{10}), and $PM_{2.5}$.

One additional program is covered under the SLAMS QAPP, the Near-Road NO_2 Monitoring Network. This network, developed by EPA, supports the one-hour NAAQS. The near-road NO_2 network is meant to provide data to determine whether the NAAQS are being met within near-road environments. Near-road NO_2 monitoring stations were installed in highly populated urban areas at locations with highly-ranked annual average daily traffic counts.

Waste

Brownfields

The federally-funded Brownfields program is responsible for working in partnership with stakeholders and with the EPA and other federal, state, and local redevelopment agencies to facilitate cleanup, transferability, and revitalization of former industrial properties that are dormant or underutilized due to liability associated with real or perceived contamination. Cleanup, transferability, and revitalization of these brownfields are accomplished through the development of regulatory, tax, and technical assistance tools. The Brownfields program also is available to provide local governments and non-profit organizations with technical advice, education, and project partnering for brownfields redevelopment projects.

Federal Preliminary Assessment/Site Inspection and Superfund

The federally-funded Preliminary Assessment/Site Inspection and Superfund programs are responsible for conducting or overseeing the assessment, inspection, investigation, and remediation of sites posing an unacceptable risk to public health and safety or the environment. The TCEQ staff either assists the EPA or takes the lead in project management of site assessments, site inspections, remedial investigations, feasibility studies, remedial design, and remedial actions. Activities at federal Superfund sites in the operation and maintenance phase are 100% state-funded and do not require EPA approval.

Leaking Underground Storage Tanks

The federally-funded Leaking Underground Storage Tanks (LUST) program has two components: prevention and corrective action. The prevention program requires a compliance investigation at every underground storage tank on a three-year cycle. The compliance investigations may include Global Positioning System (GPS) data collection. The corrective action program directs or conducts oversight for the investigation and remediation of sites where releases of petroleum products from underground storage tanks have occurred. Activities include conducting site contamination assessments, remedial action feasibility studies, and environmental and human health assessments; developing remedial action procedures; executing remedial actions; and documenting the effectiveness of remediation.

Radioactive Materials (RM)

Texas is an Agreement State through the U.S. Nuclear Regulatory Commission Agreement State Program. This authority is shared between TCEQ and the Texas

Department of State Health Services. The Texas Railroad Commission also administers a state program for oil-and-gas naturally occurring radioactive materials (NORM) that is not part of the Agreement State Program.

TCEQ's RM Section licenses and regulates radioactive waste disposal at facilities in the state of Texas. Included in this regulation is licensing for disposal of low-level radioactive wastes and certain by-product material, as well as for processing and storage of radioactive waste. The licensing program also regulates legacy radioactive waste burial sites, including the decommissioning of those facilities.

The RM Section also licenses, permits, and regulates radioactive material processing facilities associated with *in-situ* uranium mines. The licensing program work is comprehensive, ranging from environmental assessment work conducted prior to license issuance, and in-depth technical review of license amendments granted during the course of uranium production and processing, to site reclamation and restoration, collectively known as decommissioning. The program also covers reclamation and groundwater protection (decommissioning) of older, traditional uranium milling sites associated with surface mines that were developed prior to the use of *in-situ* mining techniques. The permitting program regulates the disposal of waste disposal wells, production wells, and injection wells for uranium facilities, production of minerals, and oversees restoration of these natural resources.

The Critical Infrastructure Division's Radioactive Materials Compliance Team is responsible for conducting compliance investigations at the uranium mining facilities.

Resource Conservation and Recovery Act

Resource Conservation and Recovery Act (RCRA) program responsibilities include: promoting activities that reduce or eliminate industrial and hazardous waste generation; ensuring that remaining waste is properly identified, managed, and safely disposed; expediting the closure and cleanup of contaminated sites; collecting and reporting data on hazardous waste generation, receipt, treatment, storage, and disposal; reviewing permit applications and writing permits; conducting audits of generator self-assigned waste classifications; and conducting compliance monitoring and enforcement activities.

Underground Injection Control (UIC)

The UIC program is responsible for implementing state and federal mandates providing for the protection of underground sources of drinking water from pollution by injection wells. The major uses of injection wells include waste disposal and remediation of groundwater contaminants. Program responsibilities include: reviewing permit applications and writing permits; overseeing phases of well construction, testing, remedial work, and closure; conducting compliance monitoring and participating in enforcement processes; maintaining inspection and compliance data; and collecting and reporting data as required by federal regulations.

The Critical Infrastructure Division's Radioactive Materials Compliance Team is responsible for conducting compliance investigations at the UIC permitted facilities with Class III wells used for solution mining under TCEQ's jurisdiction.

Water Quality

Clean Rivers Program

In 1991, the Texas Legislature enacted Texas Water Code Section 26.0135, the Texas Clean Rivers Act, which provides for strategic and comprehensive monitoring, and periodic assessment, of water quality. The Texas Clean Rivers Act established the Texas Clean Rivers Program. The goals of this program are to maintain and improve the quality of water within each river basin in Texas through an ongoing partnership involving the TCEQ, river authorities, other state agencies, regional entities, local governments, industry, and citizens. Through the program's watershed management approach, the agency and partners identify and evaluate water quality issues, establish priorities for corrective action, work to implement those actions, and adapt to changing priorities. Because of the program's holistic watershed stewardship responsibilities, the program partners serve as a hub for water quality information and coordination efforts within their respective watersheds.

Work is targeted to long-term monitoring with intensive studies being conducted for water quality priorities when possible and necessary. The partners primarily collect information to determine compliance with the Texas Surface Water Quality Standards; however, program priorities also incorporate providing data to identify significant long-term water quality trends, characterize water quality conditions, support the permitting process, and classify unclassified waters.

Coastal Bend Bays and Estuaries Program; Galveston Bay Estuary Program

Both the Coastal Bend Bays and Estuaries Program (CBBEP) and the Galveston Bay Estuary Program (GBEP) are continuations of programs initiated under the National Estuary Program established under the CWA, Section 320. The management conferences of these programs, comprising state and federal agencies, local governments, scientists, and citizen organizations, developed Comprehensive Conservation and Management Plans designed to guide the protection and restoration of the Galveston Bay and Coastal Bend Bays (Corpus Christi and adjacent areas) coastal watersheds.

The programs are charged with overseeing implementation of the Plans, which includes continuing efforts to monitor and improve water and sediment quality, as well as efforts to protect and restore wetlands. The programs also conduct outreach and education activities to increase awareness, communicate improvements, and advocate conservation.

In October, 1999, the CBBEP was outsourced to a local non-profit agency by the same name. Under an agreement with EPA and the non-profit organization, TCEQ was to be initially responsible, during a two-year transition period, for the EPA contract and

for oversight of the work performed and quality assurance for the program, while the non-profit organization performed the work. As of fiscal year 2002, TCEQ was no longer responsible for the EPA contract, instead maintaining its own contractual agreement with the non-profit organization for the operation of CBBEP.

Continuous Water Quality Monitoring Network

The Continuous Water Quality Monitoring Network (CWQMN) provides near-real-time water quality data for selected high priority water bodies in the state. TCEQ CWQMN stations include TCEQ and USGS-operated stations. CWQMN monitoring data may be used by the TCEQ or other entities to make water resource management decisions, target TCEQ field investigations, evaluate the effectiveness of water quality management programs such as TMDL implementation plans and watershed protection plans, characterize existing conditions and evaluate spatial and temporal trends, and confirm water quality standards compliance. Stations are programmed to collect water quality data on a continuous basis and to transmit the data to TCEQ and USGS web pages. Current CWQMN measurement parameters include temperature, dissolved oxygen, dissolved oxygen and % saturation, pH, specific conductance, total dissolved solids, turbidity, and sample depth. Stream discharge is also measured at some USGS-operated stations.

Groundwater Assessment

Staff in this program are responsible for crafting the Texas Groundwater Protection Strategy and administering the interagency Texas Groundwater Protection Committee. These activities include program coordination, monitoring coordination, water quality assessment, special projects, and public participation and outreach. Staff prepare the annual Groundwater Monitoring and Contamination Report and support and coordinate the interagency development and implementation of the state's Generic State Pesticide Management Plan under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and 106 Groundwater Performance Partnership Grants (PPGs). Staff also administer the state's Priority Groundwater Management Area Program, provide limited oversight of groundwater conservation districts relating to the adoption and implementation of management plans, process and review landowner petitions for groundwater conservation district creation, and provide reports and legislative support for groundwater management and groundwater conservation district activities.

Nonpoint Source Program

The Nonpoint Source (NPS) Program is responsible for water quality management planning and coordinating the management of urban and non-agricultural/silvicultural nonpoint sources of pollution in the state. In accordance with the CWA Section 604(b) grant, the NPS program funds water quality management planning. In accordance with the CWA Section 319(h), the NPS program is designed to implement preventive measures and watershed-based plans as identified in the State of Texas Nonpoint Source Management Program. The NPS program is also active in the TMDL implementation process and provides oversight

of grants for data collection, watershed characterization, outreach activities, and development of watershed-based plans.

Surface Water Quality Monitoring

The Surface Water Quality Monitoring (SWQM) program provides for an integrated evaluation of physical, chemical, and biological characteristics of aquatic systems in relation to human health concerns, ecological conditions, and designated uses. The program coordinates the collection of routine surface water quality data from more than 1000 sites statewide, including the collection of physicochemical, biological, and hydrological data at varying frequencies. Basic components of the SWQM program include a routine monitoring network, continuous monitoring network, biological monitoring, and special studies. Water quality data obtained through these components are stored in the Surface Water Quality Monitoring Information System (SWQMIS). The monitoring results may be used by TCEQ to characterize existing conditions, evaluate spatial and temporal trends, determine water quality standards compliance, identify emerging problems, and evaluate the effectiveness of water quality control programs.

Total Maximum Daily Load

The Total Maximum Daily Load (TMDL) program is responsible for restoring water quality in impaired water bodies in Texas by establishing loading limits for pollutants of concern identified on the CWA 303(d) List. Projects managed by the program address data collection, modeling, public participation, and TMDL development. The program oversees the development of a formal plan to implement the control measures needed to restore water quality. The TMDL program contracts with other state agencies, river authorities, universities, and private entities to conduct the statewide projects.

Water Quality Assessment

The Water Quality Assessment (WQA) program is responsible for implementation of the Texas Surface Water Quality Standards in accordance with the CWA and Texas Water Code. Projects managed by the program address determination of site-specific uses and criteria for the protection of human health and the environment, development of implementation procedures for the water quality standards, and other special studies related to water quality standards implementation. Studies addressing site-specific uses and criteria can include sampling of water chemistry, aquatic biota, physical habitat, and hydrologic conditions.

Water Quality Standards

The Water Quality Standards (WQS) program is responsible for the development of the Texas Surface Water Quality Standards in accordance with the CWA and Texas Water Code. Projects managed by the program address developing water quality standards, including determination of statewide and site-specific designated uses and criteria for the protection of human health and the environment, use attainability studies, and other special studies related to water quality standards development.

Studies addressing water quality standards development can include sampling of water chemistry, aquatic biota, physical habitat, and hydrologic conditions.

Public Drinking Water

Public Water System Supervision

This program conducts or oversees drinking water quality, operations monitoring, and compliance for public water systems. Activities include bacteriological and chemical monitoring, reviews of monitoring data to determine compliance with drinking water standards, vulnerability assessments of drinking water sources to chemical and microbiological contaminants, counterterrorism activities, source water protection; review of plans for drinking water facilities; sanitary surveys; financial, managerial, and technical capacity development; and data management and reporting.

Other Programs

Analytical Method Modification

The Analytical Method Modification (AMM) program is designed to offer laboratories a process to obtain TCEQ and EPA (if necessary) approval for modifying methods and adjusting reporting limits. This approval is required for modifying procedures pertaining to analyses for programs mandated under the CWA or FCAA. TCEQ Regulatory Guide RG-380, *The Analytical Method Modification Program - How to Apply*, provides procedures for requesting method modifications.

Field Operations

Field Operations' activities are conducted through 16 regional offices throughout the state and a central office at TCEQ headquarters. Field Operations' responsibilities include: ambient monitoring for local and statewide drinking water and surface water; conducting site visits for compliance determination and inspection at all permitted and registered air, water, and waste facilities in Texas; conducting investigations at permitted and non-permitted facilities and operations based upon citizen complaints; developing enforcement actions for most types of air, water, and waste violations identified during inspections and/or complaint investigations; overseeing and ensuring compliance with water rights and allocating limited water resources in certain areas of the state when drought conditions exist; approving pollution abatement plans to protect underground water supplies; responding to emergency spills; and providing education and technical assistance to the community.

Laboratory Accreditation

The agency has implemented a laboratory accreditation program to provide formal recognition of environmental laboratories meeting standards established by the National Environmental Laboratory Accreditation Program (NELAP).

Laboratory data produced on or after July 1, 2008 that will be used to make environmental decisions must be provided by a laboratory that is accredited by TCEQ according to 30 TAC Chapter 25 (relating to Environmental Testing Laboratory Accreditation and Certification) Subchapters A and B as amended, for the matrices, methods, and parameters of analysis for which accreditation is available, or by a laboratory that is not required to be accredited according to Texas Water Code Section 5.134 and 30 TAC Section 25.6.

Laboratory data relating to compliance with the Safe Drinking Water Act must be produced by a laboratory that is accredited by TCEQ according to 30 TAC Chapter 25 Subchapters A and B as amended, for the matrices, methods, and parameters of analysis for which accreditation is available, or by a laboratory approved under the TCEQ Public Drinking Water Program.

REGULATORY REQUIREMENTS AND GUIDANCE DOCUMENTS

Subject to any interpretations, limitations, and exceptions described elsewhere in this document, the TCEQ is committed to developing, implementing, and maintaining a quality system that meets the standards, requirements, and guidelines contained in the documents listed below:

American Society for Quality, American National Standard ASQ/ANSI E4:2014: Quality Management Systems for Environmental Information and Technology Programs – Requirements with Guidance for Use (February 2014).

The NELAC Institute, TNI Standards Vol 1 and 2 (2009).

U.S. Environmental Protection Agency, EPA Quality Manual for Environmental Programs, CIO 2105-P-01-0 (May 2000).

U.S. Environmental Protection Agency, EPA QA Field Activities Procedure, CIO 2105-P-02-0 (September, 2014).

U.S. Environmental Protection Agency, Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions, Forum on Environmental Measurements, FEM 2012-02, Revision 1 (2013).

U.S. Environmental Protection Agency, EPA Requirements for Quality Management Plans, EPA QA/R-2, (latest version).

U.S. Environmental Protection Agency, EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, (latest version).

_____, Guidance for the Data Quality Objectives Process, EPA QA/G-4, (latest version).

_____, Guidance for Quality Assurance Project Plans, EPA QA/G-5, (latest version).

_____, Guidance for the Preparation of Standard Operating Procedures (SOPs), EPA QA/G-6, (latest version).

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Appendix B:
AGENCY, OFFICE, AND DIVISION MISSIONS

TCEQ MISSION

The TCEQ strives to protect our state's public health and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and the safe management of waste.

OFFICE AND DIVISION MISSIONS

Executive Director's Office

The mission of the Executive Director's Office is to plan and direct day-to-day operations of the TCEQ, including the development and implementation of the agency quality system. The Deputy Executive Director serves as the chief operating officer to assist the Executive Director in the administration of the agency.

The Executive Director's Office also has direct oversight of the following areas:

- Intergovernmental Relations
- Environmental Assistance
- Agency Communications
- Toxicology
- *Take Care of Texas*

The Intergovernmental Relations Division (IGR) coordinates the agency's testimony and participation during legislative sessions. IGR also coordinates the agency's response to legislative inquiries, constituent issues, legislative initiatives, and interim committee studies affecting the agency. Border Affairs in IGR is the agency point of contact for Mexico issues and supports the agency's mission in the border region.

The mission of the Environmental Assistance Division is to assist customers in preventing pollution, conserving resources, and achieving compliance through education, outreach, and technical customer assistance. The division also answers questions about pending TCEQ permits, explains the permitting process, and helps the public learn of opportunities for public participation on permit applications.

The mission of the Agency Communications Division is to coordinate communications between TCEQ and the public.

The Toxicology Division helps the TCEQ make scientifically sound decisions by applying toxicological principles when evaluating environmental data, issuing authorizations, developing environmental regulations, and making policy decisions. TCEQ toxicologists identify chemical hazards, evaluate potential exposures, assess human health risks and communicate risk to the general public and stakeholders.

Take Care of Texas is a statewide campaign that provides information on Texas' successes in environmental protection, encouraging Texans to help keep air and water clean, conserve water and energy, and reduce waste.

Office of Administrative Services

The mission of the Office of Administrative Services (OAS) is to provide exceptional support of the agency's mission through operational efficiencies and service excellence. These services include: strategic planning; operating budget and performance reporting; oversight of federal grants; information resources; human resource and staff development; document management; procurements and contracts; facility management; and financial administration.

The Office of Administrative Services includes the following divisions:

- Budget and Planning
- Chief Financial Officer
- Financial Administration
- Information Resources
- Human Resources and Staff Services

The mission of the Budget and Planning Division is to promote fiscal responsibility by providing assistance and analysis in planning, administering, and monitoring the budget. The division strives for continuous improvement in its business practices to support the agency's complex financial structure.

The mission of the Chief Financial Officer (CFO) is to provide overall financial management for the agency. The CFO's office oversees the development of the agency's strategic plan, biennial appropriations request, the annual operating budget, the Annual Financial Report and quarterly performance reports to the Legislature and the governor. On fiscal matters, this office is the point of contact for the TCEQ's oversight agencies. The office is involved in bill implementation and preparing fiscal notes that have revenue requirements, and provides fiscal analysis and reporting.

The mission of the Financial Administration Division is to manage the agency's finances, procurement and contracting, and Historically Underutilized Business function; monitor, estimate, and report revenue collections; ensure the integrity of the accounting records; and maintain adequate internal controls to safeguard the agency's financial assets and ensure the compliance of our fiduciary responsibility to the people of Texas.

The mission of the Information Resources Division is to provide information technology services through collaborative partnerships with its customers in support of clean air, clean water and safe management of waste.

The mission of the Human Resources and Staff Services Division is to provide quality products and services to enable the agency to recruit, hire, develop, and retain a diverse and competent workforce.

Office of Air

The Office of Air is composed of the Air Permits Division (APD) and the Air Quality Division (AQD). The office and division goals are to develop, maintain, and encourage employee excellence; base decisions on sound science and common sense; conduct timely permit reviews; and provide excellent customer service.

The APD is dedicated to protecting human health, the environment, and the state's air resources through development and implementation of the New Source Review and Federal Operating Permit programs.

The mission of the AQD is to develop the State Implementation Plan (SIP) that implements FCAA requirements, including attainment demonstrations for criteria air pollutants and Regional Haze requirements. Consistent with this goal, the division develops and updates the emissions inventory for all stationary, mobile, and area sources of air contaminants. The division provides complex computer modeling and data analysis in support of pollution control strategy development. Within the division, the Texas Emissions Reduction Plan (TERP) provides incentive grants for projects to improve air quality in the state's nonattainment areas and other eligible counties of the state that may face air quality challenges in the future.

The division develops and implements clean fuel (diesel and gasoline) programs authorized by the state legislature; designs, administers, monitors, and evaluates the vehicle inspection and maintenance programs; implements the Low Income Vehicle Repair, Retrofit, and Accelerated Vehicle Retirement Program, commonly known as the Drive a Clean Machine Program, and Local Initiative Projects Program; administers the Tax Relief for Pollution Control Property program; and provides information and advice on voluntary mobile source emission reduction strategies. Additionally, the division manages air quality research to develop an improved understanding of air quality issues in Texas. Staff also provides information about the Toxics Release Inventory Program. This division administers and maintains the Emissions Banking and Trading Programs which provide mechanisms for reductions required under multiple programs and SIP revisions. The division also administers the air emissions and inspection fees program. This program funds the direct and indirect costs of the Title V program which includes the agency's air emissions inventory work, air permitting, field inspections, enforcement, air quality planning, air quality monitoring, and other related air programs.

Office of Compliance and Enforcement

The Office of Compliance and Enforcement (OCE) is dedicated to protecting human health and the environment by ensuring compliance with state and federal regulations. The Office seeks to promote voluntary compliance through a comprehensive program of regional investigations, technical assistance and outreach, environmental monitoring, appropriate enforcement, and laboratory accreditation. Through its homeland security efforts, the OCE is dedicated to prevent, protect, respond to and recover from natural and manmade disasters. Programs within the OCE take swift action that is fair, sensible, and responsive to the needs of the citizens of Texas.

The OCE consists of the following divisions and regional areas:

- Critical Infrastructure
- Enforcement
- Field Operations - Border and Permian Basin
- Field Operations –Central Texas
- Field Operations - Coastal and East Texas

- Field Operations - North Central and West Texas
- Monitoring

The Critical Infrastructure Division, in keeping with the State of Texas Homeland Security Strategic Plan, strives to achieve a safer, more secure, and more resilient state. To accomplish this, the division seeks not only to assure compliance with environmental regulation to protect health and the environment, but also to provide support during disaster conditions for regulated critical assets that are essential for the state and its citizens.

The Enforcement Division is dedicated to protecting human health and the environment by enforcing state and federal regulations. The division is committed to enforcement that is responsive to the needs of the citizens of Texas. This division develops enforcement cases from investigations referred by Field Operations or other divisions of the agency. Division staff calculate penalties, determine technical corrective requirements and negotiate agreed enforcement orders.

Field Operations' regional offices implement agency programs through investigating compliance at permitted, registered, and authorized air, water, and waste facilities located across the state and complaints at facilities and operations—permitted or not—from citizens, businesses and other organizations, or other concerned parties. The regional offices also provide environmental education and technical assistance for communities as needed, and monitor the quality of ambient surface water (rivers, lakes, and bays) and public drinking water. The regional offices are supported by Program Support Section staff who provide additional expertise in air, water, and waste compliance issues. These staff also administer the On-Site Sewage Facility, Landscape Irrigation, and Clean Water Certification Programs to ensure protection of human health and the environment.

The Monitoring Division provides TCEQ with the foundation for making sound, scientifically-based decisions for the protection of public health and the environment by ensuring the collection, analysis, and display of quality environmental data. The division oversees the Texas air quality monitoring program, which samples and analyzes the air in Texas and reports the results to the public and the U.S. EPA. It supports a network of stationary monitors (that belong to the state, local governments, councils of governments, and private partners), labs that analyze samples, and short-term mobile monitoring of emission sources. The Monitoring Division generates data used for determining the causes, nature, behavior, and trends of air pollution; forecasting possible high concentrations of ozone and particulate matter; determining attainment with EPA air quality standards; informing Air Pollutant Watch List decisions; and evaluating impacts of air quality on human health. The Monitoring Division also promotes compliance with state and federal requirements by accrediting laboratories and coordinating the agency's QA program.

Office of Legal Services

The Office of Legal Services (OLS) provides legal counsel and support to the Executive Director, the program areas, and, in conjunction with the Office of General Counsel and Office of Public Interest Counsel, the Commissioners. The Office of Legal Services provides legal counsel and support to ensure that commission decisions and procedures follow the

law, that regulations are developed consistent with statutory authority and intent and applied clearly and consistently, and that swift and just enforcement occurs when environmental laws are violated. The OLS consists of three divisions under the oversight of the Deputy Director. The three divisions are: (1) the General Law Division; (2) the Environmental Law Division; and (3) the Litigation Division. Additionally, amongst the Deputy Director's direct reports is the agency's bankruptcy program coordinator and associated staff. The bankruptcy program, in coordination with the Texas Attorney General, pursues debtors in federal bankruptcy court for environmental obligations and recovery of financial liabilities owed to the TCEQ. A relatively new program within the Deputy Director's direct reports is the implementation of the federal RESTORE Act (Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act). The primary responsibility of this program is the management of the grant funds available to the state, including the review, selection and management of grant projects. The program is also tasked with developing the required federal plans, as well as associated activities with U.S. Treasury and the federal RESTORE Council. The three OLS divisions are further described below.

The General Law Division supports each of the program areas and provides legal counsel on issues related to contracts, employment law, ethics, public information processing and distribution, and records retention. This division also provides support and oversight of the agency's rulemaking functions including processing and editing documents, conducting public meetings, and submitting rules for publication in accordance with agency standards and *Texas Register* requirements. Finally, the division provides secretarial and paralegal support to the Office of Legal Services.

The Environmental Law Division primarily supports the Office of Air, the Office of Waste, and the Office of Water. This division provides legal counsel to the agency in all areas of permitting and rulemaking, and represents the Executive Director in contested permitting matters in accordance with state law and agency rules regarding participation in hearings. The division's functions also include legal support related to federal program delegation, interpretation of environmental statutes and rules, and support for the Office of the Attorney General in state and federal court litigation.

The Litigation Division provides legal representation and support primarily to the Office of Compliance and Enforcement and the Office of Waste. The division negotiates Agreed Enforcement Orders, litigates enforcement, delinquent fee and penalty actions, coordinates the Supplemental Environmental Projects and Environmental Audits program, and provides support to the remediation program. The division also oversees the investigation and prosecution of environmental crimes.

Office of Waste

The Office of Waste implements federal and state laws related to the regulation of aboveground and underground petroleum storage tanks (PSTs); generation, treatment, storage, and disposal of municipal, industrial, low-level radioactive, and hazardous wastes; and the recovery and processing of uranium and disposal of byproduct. It also oversees state cleanup of contaminated sites.

The Office of Waste is composed of the following divisions:

- Permitting and Registration Support
- Radioactive Materials
- Remediation
- Waste Permits

The mission of the Permitting and Registration Support Division is to protect our state's human and natural resources by providing efficient regulatory services and ensuring operational competency of individuals licensed and entities registered by TCEQ. This includes 10 environmental occupational licensing programs and registration and reporting for industrial and hazardous waste, petroleum storage tanks, used oil, sludge transporters, dry cleaners, medical waste, television manufacturers' recycling registration, and enclosed containers.

The mission of the Radioactive Materials Division is to protect the public and the environment from unnecessary radiation exposure and contamination resulting from the possession and disposal of radioactive materials. This mission specifically encompasses the disposal of radioactive substances, including low-level radioactive waste, by-product material, *in situ* leach mining of uranium, processing and storage of radioactive waste, and regulation of legacy radioactive waste burial sites. The division also has responsibility for licensing and permitting *in-situ* mining of uranium and other minerals. Through the U.S. Nuclear Regulatory Commission Agreement State Program, the division develops, interprets, and implements rules consistent with state and federal laws. The mission also includes coordination of special projects related to radiation and public health agency-wide, cooperation with other state and federal agencies, providing technical, regulatory and educational assistance on radiation issues to the public, the regulated community, and policy-makers. In addition, the division manages the UIC program under the SDWA, which regulates the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

The mission of the Remediation Division is to oversee the investigation and remediation of waste and pollutants released into the environment. Programs address issues involving petroleum storage tanks, municipal hazardous waste, industrial solid waste, voluntary cleanups, Brownfields initiatives, dry cleaners, and Superfund.

The mission of the Waste Permits Division is: "Facilitating the Safe Management of Waste in Texas." The Solid Waste program contains RCRA, Industrial Nonhazardous, and Municipal Solid Waste components. The programs are implemented through permitting of industrial nonhazardous and hazardous waste storage, processing, and disposal; and permitting of municipal solid waste facilities.

Office of Water

The Office of Water strives to protect the state's water resources consistent with sustainable economic development, working towards clean and available water.

The Office of Water consists of the following divisions:

- Water Availability
- Water Quality
- Water Quality Planning
- Water Supply

The Water Availability Division processes water rights permits and amendments; maintains water-availability models for all river basins; reviews water-conservation plans and drought contingency plans; performs groundwater quality planning and assessments; supports the interagency Texas Groundwater Protection Committee and the Texas Groundwater Protection Strategy; manages the state's plan for preventing groundwater pollution from pesticides and the state's program for the identification of priority groundwater-management areas; ensures compliance, through the watermaster programs, with water rights by monitoring stream flows, reservoir levels, and water use; and, supports interstate river compacts.

The mission of the Water Quality Division is to protect water quality through the implementation of water quality standards; issue permits protective of human health and the environment; and achieve functional excellence. It is the goal of the Water Quality Division to process permits in an accurate and timely manner; respond early and accurately to meet internal and external assignments; communicate accurate, clear, and concise information between internal staff and to external customers; and retain, train, develop and reward quality staff.

The Water Quality Planning Division develops surface water quality standards, leads and coordinates statewide Surface Water Quality Monitoring programs, verifies, validates, and manages all surface water quality data for the agency, prepares the CWA Section 303(d) List and 305(b) Report, manages the CWA Section 319(h) Nonpoint Source grants, and completes other surface water assessment activities. The division directly manages the Clean Rivers Program, the Galveston Bay Estuary Program, the Sugar Land Laboratory, and the Total Maximum Daily Load Program, and contracts with a non-profit organization to administer the Coastal Bend Bays and Estuaries Program. The division also oversees the development and implementation of the Texas Coastal Management Program.

The Water Supply Division is the lead division in overseeing the Public Water System Supervision program which conducts or oversees drinking water quality, operations monitoring, and compliance for public water systems. Activities include bacteriological and chemical monitoring; reviews of monitoring data to determine compliance with drinking water standards; vulnerability assessments of drinking water sources to chemical and microbiological contaminants; counterterrorism activities; source water protection; review of plans for drinking water facilities; sanitary surveys; financial, managerial, and

technical capacity development; water district bonds; miscellaneous application review; and data management and reporting.

Appendix C:
PERSONNEL RESPONSIBILITIES

TCEQ PERSONNEL

All agency personnel are responsible for ensuring that items and services associated with environmental programs within their areas of responsibility meet the needs and expectations of the customer and for implementing elements of the agency quality system. Individuals responsible for establishing or executing elements of the quality system may delegate portions of the work but will retain responsibility for the accomplishment of such work. Managers, supervisors, and other personnel shall, as appropriate, review and respond to any deficiencies, findings, or significant conditions related to their areas of responsibility. All personnel are responsible for discharging their duties in accordance with applicable plans and procedures, and for disseminating information of the highest quality, utility and integrity consistent with the spirit and intent of agency goals, philosophy and regulations.

EXECUTIVE DIRECTOR

The Executive Director is responsible for planning and managing TCEQ programs and operations, including the TCEQ quality system. The Executive Director reports to the commission. The Deputy Executive Director assists the Executive Director in planning and executing agency operations. The Deputy Executive Director reports to the Executive Director.

DEPUTY DIRECTORS

Deputy Directors are responsible for planning, monitoring, evaluating, and improving environmental programs performed by, and quality systems implemented through, their respective offices. Deputy Directors are also responsible for ensuring that environmental programs produce the type and quality of results expected. Deputy Directors report to the Executive Director.

DIVISION DIRECTORS

Division Directors are responsible for planning, monitoring, executing, evaluating, and improving environmental programs performed by, and quality systems implemented through, their respective divisions. Division Directors ensure that environmental programs (and associated work activities) performed within their organizations produce the type and quality of results expected. Division Directors report to Deputy Directors.

SECTION MANAGERS, TEAM LEADERS AND WORK LEADERS

Section Managers, Team Leaders and Work Leaders are responsible for planning, monitoring, executing, evaluating, and improving quality-related work performed by, and quality systems implemented through, their respective Sections and teams. Section Managers, Team Leaders and Work Leaders are also responsible for ensuring that environmental programs within their organizations produce the type and quality of results expected. Generally, Section Managers report to Division Directors; Team Leaders report to Section Managers; and Work Leaders report to either Team Leaders or Section Managers.

QUALITY ASSURANCE MANAGER

The QA Manager is responsible for coordinating development and implementation of the TCEQ QA program. The QA Manager shall:

- coordinate the development, review, approval, and implementation of the agency QMP and agency-wide QA procedures;
- approve any exceptions to requirements contained in the agency QMP;
- maintain copies of approved QMPs;
- monitor the development and implementation of QMPs, QAPPs, and corrective actions resulting from quality system audits;
- develop training and certification programs for the QA Manager, QA specialists, laboratory auditors, and QA auditors;
- develop and provide training programs concerning the development, review, and implementation of QMPs and QAPPs;
- conduct quality system audits and conduct or participate in other types of assessments as appropriate;
- communicate changes and additions to QA standards, policies and procedures to affected program areas;
- maintain a close liaison with the QA staff of federal oversight agencies;
- provide assistance in the area of QA to agency management, project managers, QA staff, regulated entities, and the public;
- ensure quality-related issues are addressed by the appropriate level of agency management as described in Section 1 of this QMP; and
- continuously encourage the development and awareness of QA within the TCEQ.

The QA Manager position is in the Laboratory and Quality Assurance Section of the Monitoring Division, and reports to the Executive Director on quality-related issues.

QUALITY ASSURANCE SPECIALISTS

QA Specialists perform QA and quality control tasks including, but not limited to, the following:

- participate in the development, approval, implementation, and maintenance of written QA standards (e.g., QMPs, SOPs, QAPPs);
- assist grant, program, and project managers in developing and implementing quality systems;
- participate in the preparation of quality reports (e.g., annual reports);
- prepare and distribute annual assessment plans;
- determine conformance with program quality system requirements;
- determine the lead assessor for assessments;
- recommend to Division Directors and project managers, and through them to Deputy Directors, that work be stopped in order to safeguard programmatic objectives, worker safety, public health, or environmental protection;
- evaluate and concur with proposed corrective actions and the means by which corrective actions will be documented and verified;
- receive and maintain assessment records;
- monitor the implementation of corrective actions;
- identify positive and adverse trends in program quality systems;
- report on the status of corrective action programs;
- provide technical expertise and/or consultation on quality services;
- assess the effectiveness of program quality systems; and
- prepare and forward an annual QA report to the QA Manager.

QA Specialists may also perform some or all of the following QA and quality control tasks:

- coordinate the identification, disposition, and reporting to management of nonconforming items and activities;
- participate in data quality assessments;
- coordinate quality training; and
- serve as quality system representatives on special forums and committees.

QA Specialists report to Division Directors, Section Managers, or Team Leaders. Where they report to Section Managers or Team Leaders, QA Specialists have access to Division Directors as necessary to identify quality-related problems and ensure timely and effective corrective action.

PROGRAM MANAGERS

Program Managers are authorized to manage ongoing environmental programs and are accountable for the successful completion of program-related tasks and objectives. Program Managers perform the following tasks:

- maintain a thorough knowledge of program work activities, commitments, deliverables, and time frames;
- develop necessary lines of communication and good working relationships between the lead division staff and personnel of other divisions and organizations participating in a program;
- select project managers;
- monitor the effectiveness of the program quality system;
- provide feedback to supervisory and administrative personnel as necessary regarding the performance of grant and project managers;
- advise supervisory personnel when program timetables, tasks, and coordination procedures are not being met;
- elevate problems and issues requiring resolution to the lead Division Director, or designee(s), for disposition, when appropriate; and
- execute contracts and intergovernmental agreements.

The Executive Director, Deputy Directors, Division Directors, and the QA Manager have delegated authority to develop and implement program-related quality systems, including development and maintenance of QAPPs, to Program Managers. These systems shall be developed with the concurrence and assistance of lead QA staff. (See Appendix D.)

Program Managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Program Managers are also responsible for improving systems relating to specific programs as well as ensuring deficient items and services are evaluated and controlled (i.e., inadvertent use or adverse impact on other items and services is prevented), root cause(s) of deficiencies are determined, and corrective actions are planned, implemented, and verified in a timely manner. The Program Manager for Laboratory Accreditation shall determine whether deficiencies or significant conditions warrant refusing to accept analytical data from laboratories or suspension or revocation of a laboratory's accreditation.

Program Managers are selected by Deputy Directors, Division Directors, or Section Managers. Appendix D contains a list of current TCEQ Program Managers.

GRANT MANAGERS

Grant Managers manage federally-funded grants to their conclusion and are accountable for the successful completion of grant-related tasks and objectives. Grant Managers or their designees may perform the following tasks:

- maintain a thorough knowledge of work activities, commitments, deliverables, and time frames associated with grants;
- develop necessary lines of communication and good working relationships between the lead division staff and personnel of other divisions and organizations participating in a grant;
- ensure the lead division administrative services coordinator or grant budget coordinator, and the TCEQ federal funds coordinator are informed of changes, revisions, or additions to the project;
- provide a list of expectations to grant coordinators that identify actions for successful completion of a grant;
- monitor the effectiveness of the grant quality system;
- provide feedback to supervisory and administrative personnel as necessary regarding the performance of grant coordinators;
- advise supervisory personnel when grant timetables, tasks, and coordination procedures are not being met;
- elevate problems and issues requiring resolution to the lead Division Director, or designee(s), for disposition, when appropriate;
- monitor the conduct of their grant and reconcile their grant budget with the operating budget and various grant financial reports;
- prepare, or assist in preparing, contracts and intergovernmental agreements;
- ensure contractors understand their commitment to meet deadlines and schedule commitments;
- enforce corrective action measures to ensure contractors meet deadlines and scheduled commitments and, for federally-funded grants, inform the federal project officer and federal funds coordinator of problems and issues relating to corrective actions when necessary; and
- report any suspected waste, abuse, fraud, or criminal activities with grant funds.

The Executive Director, Deputy Directors, Division Directors, and the QA Manager have delegated authority to develop and implement grant-related quality systems. These systems shall be developed with the concurrence and assistance of QA staff.

Grant Managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Grant Managers are also responsible for improving systems relating to specific grants and projects as well as evaluating and controlling deficient items and activities.

Grant Managers are selected by lead Division Directors, or their designees. Appendix D contains a current list of grant managers.

PROJECT MANAGERS

Project Managers are authorized to manage environmental projects, including work performed by contractors, to their conclusion and are accountable for the successful completion of project-related tasks and objectives. The project manager role is essentially the same as that described for Grant Coordinator in the Federal Grants Instruction Guide.

Project Managers perform the following tasks:

- maintain a thorough knowledge of work activities, commitments, deliverables, and time frames associated with projects;
- develop necessary lines of communication and good working relationships between the lead division staff and personnel of other divisions and organizations participating in a project;
- ensure the lead division administrative services coordinator or grant budget coordinator, and the TCEQ federal funds coordinator are informed of changes, revisions, or additions to the project;
- negotiate a list of expectations with the grant manager to ensure a clear understanding of the factors that may affect performance;
- monitor the effectiveness of the project quality system;
- verify QAPPs are being followed and projects are producing data of known and acceptable quality;
- elevate problems and issues requiring resolution to the lead Division Director, or designee(s), for disposition, when appropriate;
- assist in preparing contracts and intergovernmental agreements;
- ensure project contractors understand their commitment to meet deadlines and schedule commitments; and
- enforce corrective action measures to ensure contractors meet deadlines and scheduled commitments.

Project Managers may also perform the following tasks:

- lead or participate in the development, approval, implementation and maintenance of QA standards;
- coordinate project planning with other agency programs and external participants;
- lead the QAPP development process to ensure that a systematic project planning process is implemented, consistent with Chapter 7 of this QMP;
- notify QA Specialists and management of circumstances that may adversely affect the quality of data;
- in coordination with the lead QA specialist, develop, enforce, and monitor corrective action; and
- review and approve data, reports, and other deliverables.

The Executive Director, Deputy Directors, Division Directors, and the QA Manager have delegated authority to develop and implement project-related quality systems, including development and maintenance of QAPPs, to Project Managers. These systems shall be developed with the concurrence and assistance of QA staff.

Project Managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Project Managers are also responsible for improving systems relating to specific projects as well as evaluating and controlling deficient items and activities (i.e., preventing inadvertent use or adverse impact on other items and services), determining root cause(s) of deficiencies, planning and implementing corrective actions, and verifying the effective and timely implementation of corrective actions.

Project Managers are selected by program managers, or their designees.

CONTRACT MANAGERS

Contract Managers are authorized to procure the services of outside entities for performing or supporting environmental work. They are responsible for overseeing most aspects of contractor work. Contract Manager responsibilities may include:

- communicating with and/or instructing contractors on all matters concerning contracts;
- supporting or enabling contractor performance, ensuring that necessary instructions, reviews, approvals, prior authorizations and other support or input specified in the contract is provided in a timely manner;
- when applicable, coordinating and scheduling the review and approval of QAPPs prepared by contractors;
- monitoring and tracking contract-required work;
- monitoring contract expenditures and reviewing/approving invoices or other types of payment requests;
- evaluating and documenting contractor performance;
- assessing risk and guarding against contractor fraud;
- completing close-out activities;
- maintaining all contract-related documents and records; and
- conducting cost- and price-benefit analyses to determine if contractors provide the best value to the state.

ASSESSMENT TEAM LEADERS AND ASSESSORS

With the assistance and concurrence of lead QA staff and project or program managers, lead assessors shall determine the members of assessment teams. Assessment teams may consist of a single (lead) assessor or a lead assessor, other assessors, technical experts, and/or observers. Project managers and lead QA staff (Appendix D), by virtue of their appointment to these positions, have the requisite training and experience which qualify them to conduct assessments. Other personnel determined by project managers, lead QA staff, Division Directors, Section Managers, or their designees, may be authorized to conduct assessments.

With the concurrence of lead QA staff, Lead Assessors shall:

- prepare and distribute assessment checklists;
- advise affected lead quality assurance staff, Division Directors, and project managers of significant conditions;
- forward written copies of assessment reports to manager(s), the project manager, and the lead QA staff of organizations affected by an assessment; and
- determine whether to accept proposed corrective actions.

Lead Assessors shall also:

- brief team members on their roles and responsibilities;
- direct assessment preparations;
- provide written notification to organizations to be assessed (announced assessments);
- direct entrance and exit meetings;
- direct the preparation of assessment reports;
- forward assessment records to lead QA staff;
- advise lead QA staff and suspend assessments when assessment objectives cannot be achieved; and
- recommend follow-up assessments.

Appendix D:
LEAD OFFICES/DIVISIONS, QUALITY ASSURANCE STAFF, PROGRAM MANAGERS, and GRANT MANAGERS

Lead Offices/Divisions

Program	Lead Office/Division
Agency Quality Assurance Program	OCE/Monitoring
Air Quality – NEI Emissions Reporting	OA/Air Quality Program
Air Quality Monitoring	OCE/Monitoring
Analytical Method Modification Program	OCE/Monitoring
Brownfields Program	OOW/Remediation
Clean Rivers Program	OW/Water Quality Planning
Coastal Bend Bays and Estuaries Program	OW/Water Quality Planning
Continuous Water Quality Monitoring Network	OW/Water Quality Planning
Federal Superfund	OOW/Remediation
Galveston Bay Estuary Program	OW/Water Quality Planning
Groundwater Assessment	OW/Water Availability
Laboratory Accreditation	OCE/Monitoring
LUST - Corrective Action	OOW/Remediation
LUST – Prevention Assistance	OCE/Program Support Section
Nonpoint Source Pollution Control	OW/Water Quality Planning
Preliminary Assessment/ Site Inspection	OOW/Remediation
Public Water System Supervision	OW/Water Supply
Radioactive Materials	OOW/Radioactive Materials
RCRA	OOW/Waste Permits
Surface Water Quality Monitoring	OW/Water Quality Planning
Total Maximum Daily Load Program	OW/Water Quality Planning
UIC	OOW/Radioactive Materials
Water Quality Assessment	OW/Water Quality
Water Quality Standards	OW/Water Quality Planning

Lead Quality Assurance Staff

Program	Lead Quality Assurance Staff
Agency Quality Assurance Program	Sharon Coleman
Air Quality – NEI Emissions Reporting Program	Chris Owen
Air Quality Monitoring	
CATMN	Larry Ogle
Local Programs	Susan Simonet
NATTS	Larry Ogle
PAMS	Larry Ogle
Pantex	Larry Ogle
$PM_{2.5}$	Penny Sterling
SLAMS/Border/NCore	Susan Simonet
Analytical Method Modification Program	Steven Gibson
Brownfields Program	Ann Strahl
Clean Rivers Program	Daniel Burke
Coastal Bend Bays and Estuaries Program	Sharon Coleman
Continuous Water Quality Monitoring Network	Daniel Burke
Federal Superfund	Ann Strahl
Galveston Bay Estuary Program	Michelle Krause
Groundwater Assessment	Michael Chadwick
Laboratory Accreditation	Sharon Coleman
LUST- Corrective Action	Ann Strahl
LUST - Prevention Assistance	Julie Steger
Nonpoint Source Program	Sandra Arismendez
Preliminary Assessment/Site Inspection	Ann Strahl
Public Water System Supervision	Gary Regner
Radioactive Materials	Vaishali Tendolkar Muhammadali Abbaszadeh (Critical Infrastructure Division)
RCRA	Anju Chalise
Surface Water Quality Monitoring	Daniel Burke
Total Maximum Daily Load Program	Sandra Arismendez
UIC	Debi Armbruster Muhammadali Abbaszadeh (Critical Infrastructure Division)
Water Quality Assessment	Daniel Burke
Water Quality Standards	Daniel Burke

Program Managers

Program	Manager
Agency Quality Assurance Program	Sharon Coleman
Air Quality- Emissions Reporting Program	Kevin Cauble
Air Quality Monitoring	
CATMN	Lecelle Clark
Local Programs	Hannah Crews
NATTS	Lecelle Clark
NCore	Lecelle Clark
PAMS	Lecelle Clark
Pantex	Lecelle Clark
PM2.5 Network	Lecelle Clark
SLAMS	Hannah Crews
U.S./Mexico Border	Nick Boulanger
Analytical Method Modification Program	Steven Gibson
Brownfields Program	Kristian Livingston
Clean Rivers Program	Sarah Eagle
Coastal Bend Bays and Estuaries Program	Cory Horan
Continuous Water Quality Monitoring Network	J. Andrew Sullivan
Federal Superfund	
Core Program Cooperative Agreement	Monica I. Harris
Block Funding Cooperative Agreement	Monica I. Harris
Galveston Bay Estuary Program	Sarah Bernhardt
Groundwater Assessment	Abiy Berehe
Laboratory Accreditation	Ken Lancaster
LUST - Corrective Action	Donald Boothby
LUST - Prevention Assistance	Jonathan Walling, acting
Nonpoint Source Program	Kerry Niemann, acting
Preliminary Assessment/Site Inspection	Stephen Ellis
Public Water System Supervision	Gary Chauvin
Radioactive Materials	Bobby Janecka
RCRA, Subtitle C	
Corrective Action	Merrie Smith
Enforcement	James Gradney
Field Operations	Jonathan Walling, acting
Modeling	Daniel Menendez
Permitting	Bob Patton, Jr.
Registration & Reporting	Don Kennedy
Toxicology	Michael Honeycutt
Surface Water Quality Monitoring	J. Andrew Sullivan
Total Maximum Daily Load Program	Chris Loft
Uranium Licensing and Permitting	Bobby Janecka
UIC	Lorrie Council
Water Quality Assessment	Gregg Easley
Water Quality Standards	Joe Martin

Grant Managers

Program	Grant Manager
Air Quality - Section 105 Air Pollution Planning and Control	Elizabeth McKeefer
Air Quality Monitoring	
NATTS	Holly Landuyt
Near Road NO_2	Holly Landuyt
Pantex	Andrea Walker
$PM_{2.5}$ Network	Holly Landuyt
U.S./Mexico Border	Steve Niemeyer
Brownfields	Kristian Livingston
Coastal Bend Bays and Estuaries Program	Laurel Martin
CWA Section 106 Water Pollution Control Grant Categorical/Supplemental	Laurel Martin, Jim Lancaster
CWA Section 106 Water Pollution Control Grant Groundwater	Peggy Hunka
CWA Section 106 Water Pollution Control Grant PPG-Surface Water	Randy Baylor
CWA Section 319(h) Nonpoint Source Categorical	Laurel Martin, Jim Lancaster
CWA Section 319(h) Nonpoint Source PPG	Laurel Martin
CWA Section 604(b) Water Quality Management Plan (WQMP)	Laurel Martin
Federal Superfund	
Core Program Cooperative Agreement	Randy Arnett
Block Funding Cooperative Agreement	Randy Arnett
FIFRA Groundwater	Alan Cherepon
Galveston Bay Estuary Program	Helen Cox
LUST- Corrective Action	Kristine Elliott
LUST - Prevention Assistance	Frank Burleson
Preliminary Assessment/Site Inspection	April Palmie
Public Water System Supervision - DWSRF	Matthew Dodge
Public Water System Supervision – PPG	Matthew Dodge
RCRA PPG	Steve Hutchinson, Anju Chalise
UIC PPG	Thomas Robichaux

Note: The TCEQ Federal Funds Coordinator is Pamela McKinney, Manager, Federal Funds Section, Budget and Planning Division.

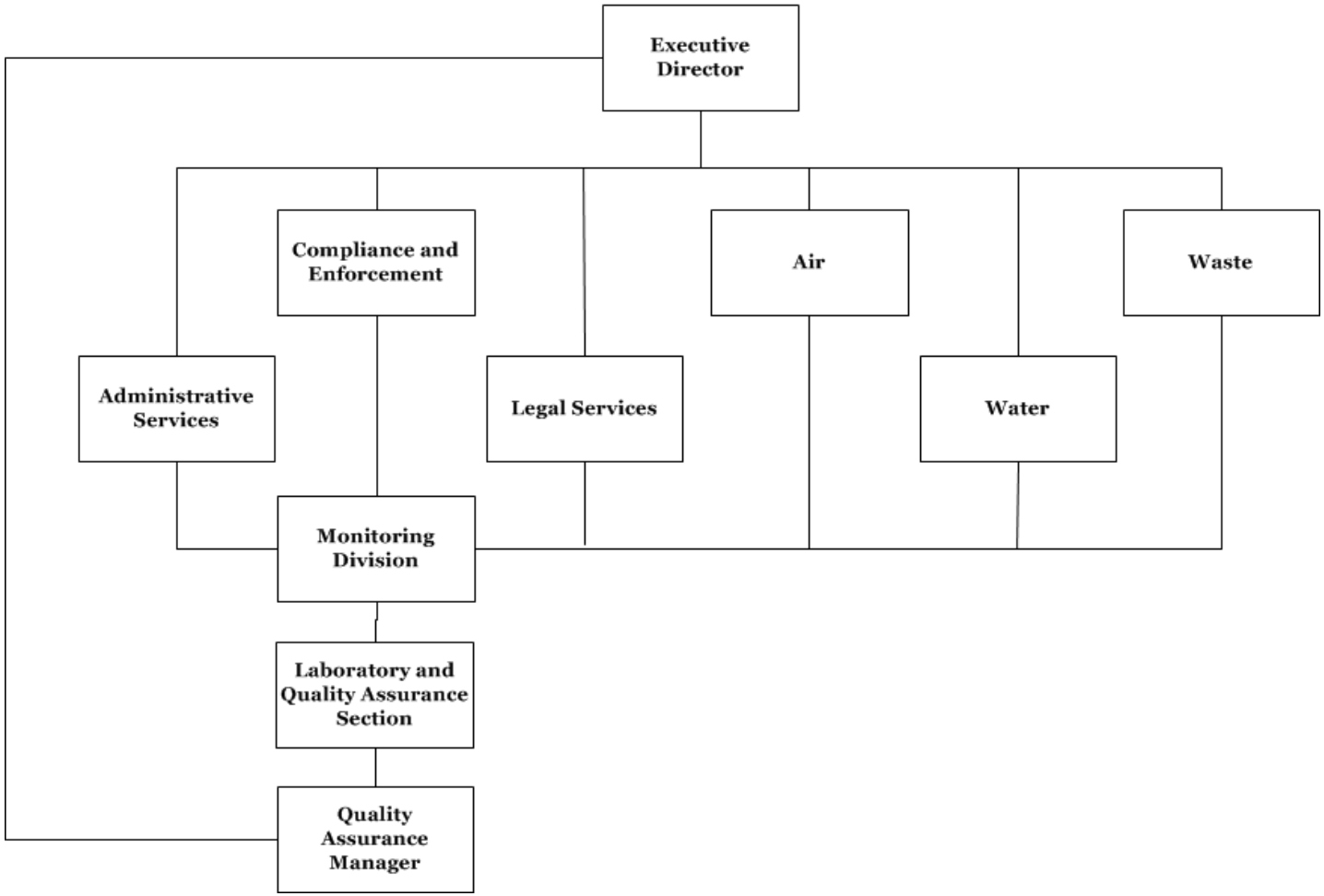
Appendix E:

ORGANIZATION CHARTS

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Agency Organization

https://www.tceq.texas.gov/about/organization/orgchart.html

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Quality Assurance Organization



Appendix F:

PREPARATION, REVIEW, APPROVAL, AND DISTRIBUTION OF QUALITY MANAGEMENT PLANS

Quality management plans shall be prepared as necessary to address environmental programs (as defined in EPA Requirements for Quality Management Plans, EPA QA/R-2) listed in Appendix A.

PREPARATION

QMPs shall be developed in accordance with QA requirements contained or referenced in this QMP and shall clearly state any interpretations, limitations, or exceptions to those requirements. The TCEQ QA Manager shall coordinate preparation of the agency QMP.

TCEQ QMPs shall be prepared with the involvement and assistance of program and QA staff from all participating organizations. All participating organizations, including EPA, shall be afforded an opportunity to review and comment on the agency QMP prior to its approval and implementation. Unless other arrangements have been agreed upon, reviewers should be given a minimum of 30 days in which to review QMPs. Review comments, responses to comments, and revisions shall be documented and provided to reviewers by the TCEQ QA Manager or designee.

APPROVAL

TCEQ QMPs shall be approved prior to implementation. Approval of the agency QMP shall be documented by the signatures of the Executive Director, Deputy Directors, and the QA Manager as well as the EPA Region 6 QA Manager.

TCEQ CONTRACTORS

Contractors shall be bound by requirements delineated in the TCEQ QMP to the extent these requirements pertain to the goals and objectives of their work.

DISTRIBUTION OF QMPs

The TCEQ QA Manager shall distribute copies of the approved agency QMP to the Executive Director, Deputy Directors, participating divisions, and lead QA staff as well as EPA Region 6. Lead QA staff (Appendix D) shall distribute copies of the agency QMP to TCEQ personnel and contractors whose work requires knowledge of and adherence to requirements and specifications contained in the document.

MAINTENANCE OF QMPs

The TCEQ QA Manager shall ensure the agency QMP is current and up-to-date.

QMP REVISIONS

The agency QMP shall be reissued annually or revised and reissued within 120 days of significant changes. If the QMP accurately reflects agency goals and policies, the annual reissuance may be done by a certification that the plan is current, to include a copy of new, signed approval pages.

EXPEDITED CHANGES

Expedited changes to QMPs may be approved to reflect changes in organization, mission, and key personnel, address deficiencies, improve operational efficiency, or accommodate unique and unusual circumstances. Expedited changes to QMPs are effective upon approval by the TCEQ QA Manager and the EPA Region 6 QA Manager.

Appendix G:
PREPARATION, REVIEW, APPROVAL, AND DISTRIBUTION OF QUALITY ASSURANCE PROJECT PLANS

Quality Assurance Project Plans (QAPPs) shall be prepared for projects involving environmental data operations (as defined in *EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5*) governed by this QMP. Environmental data operations include, but are not limited to:

- sampling and analysis;
- compilation or use of data collected from existing sources (acquired or secondary data);
- development and/or use of models of environmental processes; and
- collection or calculation of geospatial data.

QAPPs document how environmental data operations are organized, planned, implemented, and assessed. They also define in detail how specific QA and quality control activities will be applied. None of the environmental work governed by this QMP may be initiated until an approved QAPP is distributed to project personnel.

QAPP PREPARATION AND REVIEW

QAPPs shall be prepared in accordance with requirements contained in EPA QA/R-5. Unless otherwise directed by the lead Deputy or Division Directors, project managers shall, with the assistance of the QA staff, coordinate the preparation of QAPPs.

QAPPs shall be prepared with the involvement and assistance of program and QA staff from all participating organizations, using a systematic planning process, such as the data quality objectives process (Guidance for the Data Quality Objectives Process, EPA QA/G-4) or comparable alternative. All participating organizations, including EPA, shall be afforded an opportunity to review and comment on proposed QAPPs prior to their approval and implementation. Unless other arrangements have been agreed upon, reviewers should be given a minimum of 30 days in which to review QAPPs, including annual and multi-year QAPP updates. Review comments, responses to comments, and revisions shall be documented and provided to reviewers by project managers or their designees.

PRE-QAPP WORK APPROVAL

EPA QA/R-5 states:

> "All work funded by EPA that involves the acquisition of environmental data generated from direct measurement activities, collected from other sources, or compiled from computerized databases and information systems shall be implemented in accordance with an approved QA Project Plan… No work covered by this requirement shall be implemented without an approved QA Project Plan available prior to the start of the work except under circumstances requiring immediate action to protect human health and the environment or operations conducted under police powers."

Questions regarding the application of QA requirements to projects or portions of projects may be discussed with TCEQ QA staff and should be discussed in advance with EPA Region 6 Project Officers.

APPROVAL

At a minimum, QAPP approvals shall be documented by the signatures specified in Table 1. Deputy and Division Directors, Section and Grant Managers, and the QA Manager may delegate QAPP approval authority. The lead Division Director, Section, Grant, Program, and Project Managers, participating QA Specialists, or QA Manager may require additional approval signatures. Both electronic, i.e., scanned and e-mailed/faxed signature pages, and/or original signatures may be accepted, depending upon program-specific requirements.

Unless other arrangements have been approved, new QAPPs, including annual and multi-year QAPP updates, shall be prepared and approved according to the following timetable:

Activity **Office/Organization**	**Timetable**	**Lead**
Submittal for TCEQ QA review	135 days before sampling/QAPP expiration date	See Appendix D
TCEQ Approval/ Submittal to EPA	75 days before sampling/ QAPP expiration date	See Appendix D
Comments/Approval from EPA	15 days before sampling/QAPP expiration date	See Appendix D

Some program QAPPs, e.g., RCRA/UIC, must be approved by EPA prior to the end of each fiscal year. Clean Rivers and certain other programs are state-funded, therefore their QAPPs do not require EPA approval.

Multi-year QAPPs for EPA-funded programs and projects must be reviewed annually by TCEQ project managers, or by lead QA specialists for programs whose project managers are not responsible for QAPP preparation or approval. The reviews must be documented and certified, and must include any program or project changes which were approved via amendment during the prior year. Non-substantive revisions (e.g., organizational changes, schedule changes not affecting the project design or quality or quantity of work to be performed, etc.) may also be conveyed as part of the annual certification. Project managers should consult the TCEQ QA Manager or designee for determination of what constitutes non-substantive revisions on a case-by-case basis. TCEQ project managers or designees must provide certification of the annual reviews to the TCEQ QA Manager and the appropriate EPA Region 6 Project Officers 30 days before the annual anniversary date.

EPA Region 6 may delegate authority for QAPP approval to the TCEQ for certain programs. The TCEQ intends to seek from EPA authority to approve QAPPs on behalf of Region 6. In doing so, the TCEQ will ensure that EPA's role in the development of QAPPs is maintained and that a program's or organization's quality system is capable of achieving data of appropriate and sufficient quality. Written delegation requests are submitted jointly by the TCEQ QA Manager and the lead Division Director (or designee).

Lead QA specialists, TCEQ project managers, or their designees shall submit QAPPs to their respective EPA Region 6 Project Officers. In the event an EPA Project Officer does not provide written approval of or comments describing deficiencies in a QAPP within 45 days, the lead QA specialist, project manager, or designee shall contact the EPA Region 6 QA Manager and request assistance in determining the status of the QAPP.

TCEQ CONTRACTORS

Environmental work conducted jointly by TCEQ and contractors or conducted solely by TCEQ contractors shall be planned and documented in QAPPs. QAPPs involving contractors shall be prepared, reviewed, and approved as described above. (Unless TCEQ has delegated authority and oversight of subcontractors, these requirements also apply to environmental work conducted by subcontractors.)

Contractors shall be bound by requirements delineated in QAPPs to the extent these requirements pertain to the goals and objectives of their work. Contractor commitment to requirements contained in QAPPs shall be documented. This documentation may take the form of QAPP approval or concurrence signatures, or QAPP distribution receipt signatures.

DISTRIBUTION

Project managers, or designees, shall distribute copies of QAPPs to the individuals listed in the Distribution Lists of the documents. At a minimum, distribution shall include participating organizations (offices, divisions, regional offices) within TCEQ, participating contractors, and EPA. TCEQ Division Directors, Regional Directors, and contractor representatives shall ensure copies of QAPPs are made available to personnel performing environmental activities governed by these documents.

MAINTENANCE

Lead QA specialists (Appendix D) shall maintain an up-to-date list of all QAPPs applicable to their respective programs as well as approved copies of these documents. Unless a longer retention period is specified in a grant, record retention schedule, or other governing document, lead QA staff, or designees, shall retain QAPPs for three years after the end of the project period.

Table 1
QAPP Approval Requirements

	Exec Dir	Dep Dir	Grant Mgr	Div Dirs	Sec Mgrs	Pgm Mgr	Pjt Mgr	QA Specs	QA Mgr	EPA
Air Quality			·	·	·	·	·	·	·	·
Air Quality Monitoring			·	·	·	·	·	·	·	□
Clean Rivers Program*					·	·	·	·	·	
Coastal Bend Bays and Estuaries Program			·		o	·	·	·	·	·
CWA Section 106*										
PPG- Groundwater			·	·	o	·	·	·	·	·
PPG- Surface Water*, *** (includes CWQMN, SWQM, WQA and WQS)			o		·	·	·	·	·	·
Categorical (Supplemental) Grant*			o		·	·	·	·	·	·
Federal Superfund and Brownfields			·	·	·	·		·	·	·
Site-specific sampling plans						·	·	·#		·
FIFRA PPG-Groundwater			·	·	o	·	·	·	·	·
Galveston Bay Estuary Program			·	o	o	·	·	·	·	□
LUST Corrective Action			·	·	·	·		·	·	·
LUST Prevention Assistance			·	·	·	·	·	·	·	·
Nonpoint Source Program (CWA 319 & 604(b))*			o	o	o	·	·	·	·	□
Preliminary Assessment/Site Inspection			·	·	·	·		·	·	·
Site-specific sampling plans						·	·	·#		·
Public Water System Supervision			·	·	·	·	·	·	·	·
RCRA***			·	·	·	·		·	·	·
Total Maximum Daily Load Program (TMDL)*			o	o	o	·	·	·	·	□**
UIC***			·	·	·	·		·	·	·

· - approval signature(s) required
□ - excluding QAPPs for state-funded air quality monitoring programs, the Galveston Bay Estuary Program, the Nonpoint Source Program, and the TMDL Program
o - excluding Monitoring, Water Quality, and Water Quality Planning Divisions for certain QAPPs
- TCEQ QA Manager signature required if QAPP amended by field sampling plan
* - WQPD Data Manager signature required if data will be submitted to the Surface Water Quality Monitoring Information System (SWQMIS)
** - EPA signatures required for certain modeling projects
*** - Area Directors' signatures required

APPROVAL PERIODS AND EXTENSIONS

The last approved version of a QAPP shall remain in effect only for the approval period defined by the approving authority(ies). Upon expiration of the approval period for a QAPP, all work covered by the expired QAPP, whether performed by TCEQ or contractors, shall cease until such time as a revised QAPP has been fully approved by the approving authority(ies).

TCEQ program personnel may request extensions of federally-funded QAPPs, but extensions may only be granted by EPA Region 6 Project Officers, on a case-by-case basis. Copies of the requests must be sent concurrently to the TCEQ Grant Manager and QA Manager. Copies of EPA Region 6 responses to the extension requests must also be provided to the TCEQ Grant Manager and QA Manager.

REVISIONS

Until environmental work is completed, QAPPs shall be revised as necessary and reissued by their expiration dates or revised and reissued within 120 days of significant changes, whichever is sooner. If the entire QAPP is current, valid, and accurately reflects the project goals and the organization's policy, the reissuance may be done by a certification that the plan is current, to include a copy of new, signed approval pages for the QAPP. (See also "Approval Periods and Extensions.")

AMENDMENTS

Amendments to QAPPs are developed and approved to reflect changes in project organization, tasks, schedules, objectives, and methods, address deficiencies, improve operational efficiency, and accommodate unique or unanticipated circumstances. When changes are needed and EPA has not delegated authority to TCEQ for QAPP approval, the TCEQ project manager will, in conjunction with the lead QA specialist, present the changes to the EPA Region 6 Project Officer. If the EPA Project Officer deems the changes to be substantive, the TCEQ project manager will submit a formal amendment for approval. If the EPA Project Officer deems the changes to be non-substantive, the TCEQ project manager will notify all individuals and organizations contained in the QAPP distribution list of the changes being made. These changes will remain in effect until the next revision of the QAPP, and new EPA Q-TRAK numbers for the amendments will not be needed.

If EPA has delegated authority to TCEQ for QAPP approval, the TCEQ project manager will contact the lead QA specialist or TCEQ QA Manager to determine whether changes are substantive or nonsubstantive, and to discuss the appropriate format for amendment documentation. If the changes are deemed substantive, the TCEQ project manager will submit an amendment to the lead QA specialist or TCEQ QA Manager for review and approval.

Amendments are effective immediately upon approval by the TCEQ project manager or designees, the lead QA specialist, the TCEQ QA Manager, and the EPA Region 6 Project Officer (when required). Amendments to QAPPs and the reasons for the changes shall be documented by the TCEQ project manager and distributed immediately to all individuals and organizations contained in the QAPP distribution list.

Amendments shall be incorporated into a revised QAPP during the anniversary revision process or within 120 days of the initial approval in cases of significant changes. For multi-year QAPPs, amendments must be attached to and noted in annual certification submissions.

Appendix H:

GLOSSARY OF TERMS AND PHRASES

Accreditation - The process by which the commission evaluates and recognizes a laboratory as meeting standards for accreditation and commission rules.

Accuracy - The degree of agreement between a measured value and a true or known value, often expressed as percent recovery of a spiked sample. Accuracy includes a combination of random error (precision) and systematic error (bias) components that result from sampling and analytical components.

Activity - An all-inclusive term describing a specific set of operations or related tasks to be performed, either serially or in parallel (e.g., research and development, field sampling, analytical operations, equipment fabrication), that in total result in a product or service.

Acquired Data (also existing or secondary data) – Environmental data used for a project but originally produced for other purposes and/or from other sources, including literature, compilations from databases and information systems, results from computerized or mathematical models of environmental processes and conditions, and industry surveys.

Amendment - A change to a quality assurance document that normally does not require reissuance of the original document.

Assessment - The evaluation process used to measure the performance or effectiveness of a system and its elements, including audit, performance evaluation, quality system audit, peer review, inspection, or surveillance.

Audit - A systematic and independent examination to determine whether activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

Audit of Data Quality – An examination of data to determine if the data objectives specified in the QAPP were met for the project. Audits of data quality entail tracing data through the steps of the collection, analysis, interpretation, and reporting processes to identify a clear, logical connection between the steps in the data management system for the project.

Auditee - The organization being audited.

Auditor - A person qualified to perform audits.

Bias - The systematic or persistent distortion of a measurement process which causes errors in one direction (i.e., the expected sample measurement is different from the sample's true value.).

Business Plans - Annual office- and division-specific descriptions of organizational missions, philosophy, objectives, strategies, programs, partnerships, self-assessments, and key initiatives.

By-product Material – A radioactive material, other than special nuclear material, that is produced in or made radioactive by exposure to radiation incident to the process of producing or using special nuclear material; the tailings or wastes produced by or resulting from the extraction or concentration of uranium or thorium from ore processed primarily for its source material content; any discrete source of radium-226; any material that has been made radioactive by use of a particle accelerator; and any discrete source of naturally occurring

radioactive material, other than source material, that would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security.

Calibration - Comparison of a measurement standard, instrument, or item with a standard or instrument of higher accuracy to detect and quantify inaccuracies and to report or eliminate those inaccuracies by adjustments.

Career Ladder – A structured progression within a classification series providing an employee with increasing levels of responsibility and pay.

Chain of Custody - An unbroken trail of accountability that ensures the physical security of samples, data, and records.

Characteristic - Any property or attribute of a datum, item, process, or service that is distinct, describable, and/or measurable.

Comments - Statements made by auditors in an audit report to assist an auditee. Comments do not require corrective action or response from the auditee.

Conformance - An affirmative indication or judgment that a product or service has met the requirements of the relevant specifications, contract, or regulation; also, the state of meeting the requirements.

Contractor - Any organization or individual that contracts to furnish services or items or to perform work; a supplier in a contractual relationship. For the purposes of the TCEQ quality assurance program, the term also includes individuals and organizations that participate in environmental programs or projects but may not receive monetary compensation for goods and services they provide or work they perform.

Corrective Action - An action taken to eliminate the causes and effects of an existing deficiency or other undesirable situation.

Customer - Any individual or organization for whom items or services are furnished or work is performed in response to requirements and expectations.

Data Quality Assessment - A process for performing statistical analysis to determine whether the quality of a data set is adequate for its intended use.

Data Quality Objectives (DQOs) - Qualitative and quantitative statements derived from the DQO process that clarify study, technical, and quality objectives; define the appropriate type of data; and specify tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions.

Data Quality Objectives Process - A systematic strategic planning tool based on the scientific method that identifies and defines the type, quality, and quantity of data needed to satisfy a specified use.

Deficiency - An unauthorized deviation from acceptable procedures or practices, or a defect in an item.

Design - Specifications, drawings, design criteria, and performance requirements as well as the result of deliberate planning, analysis, mathematical manipulations, and design processes.

Design Change - Any revision or alteration of the technical requirements defined by approved and issued design output documents and approved and issued changes thereto.

Design Review - A documented evaluation by a team, including personnel such as the responsible designers, the customer for the work or product being designed, and a quality assurance representative, but other than the original designers, to determine if a proposed design will meet the established design criteria and perform as expected when implemented.

Document - Written or pictorial information describing, defining, specifying, reporting, or certifying activities, requirements, procedures, or results.

Environmental Conditions - The description of a physical medium (e.g., air, water, soil, sediment) or biological system expressed in terms of its physical, chemical, radiological, or biological characteristics.

Environmental Data - Measurements or information that describe environmental processes or conditions or the performance of environmental technology.

Environmental Data Operations - Work performed to obtain, use, or report information pertaining to environmental processes and conditions.

Environmental Monitoring - The process of measuring or collecting environmental data.

Environmental Processes - Manufactured or natural processes that produce discharges to or that affect the ambient environment.

Environmental Programs - Any work or activities involving the environment, including characterization of environmental processes or conditions; environmental monitoring; environmental research and development; operation of environmental technologies; and laboratory operations on environmental samples. Environmental programs normally comprise one or more projects and may involve one or more grants.

Environmental Technology - Pollution control devices and systems, waste treatment processes and storage facilities, and site remediation technologies and their components that may be added to process discharges (e.g., emissions, effluents) or used in the ambient environment to remove pollutants or contaminants from or prevent them from entering the environment.

Expedited Change - A change in or amendment to a quality assurance document (e.g., QMP, QAPP) that is authorized through an abbreviated review and approval process.

Financial Assistance - The process by which funds are provided by one organization (usually government) to another organization for the purpose of performing work or furnishing services or items. Financial assistance mechanisms include grants, cooperative agreements, and government interagency agreements.

Finding - An assessment conclusion (positive or negative) that identifies a condition having a significant effect on an item or activity and is normally accompanied by specific examples of the observed condition.

Functional Job Description - Position-specific descriptions of job functions, duties, and abilities. The Functional Job Description describes the most important/major functions of a position. It

helps to properly classify a position and to determine FLSA status. It lists the physical, environmental, and cognitive demands of a job.

Graded Approach - The process of basing the level of application of managerial controls applied to an item or work according to the intended use of the results and the degree of confidence needed in the quality of the results.

Grant - An agreement between TCEQ and another entity concerning the production of environmental items; grant, cooperative agreement, contract.

Grant Manager - A functional title that refers to the individual authorized to manage a federally-funded grant to its conclusion and accountable for the successful completion of grant-related tasks and objectives.

Hazardous Waste - A solid waste identified or listed as a hazardous waste by the Administrator of the U.S. Environmental Protection Agency under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended.

Independent Assessment - An assessment performed by a qualified individual, group, or organization that is not a part of the organization directly performing and accountable for the work being assessed.

Inspection - An activity such as measuring, examining, testing, or gauging one or more characteristics of an entity and comparing the results with specified requirements in order to establish whether conformance is achieved for each characteristic.

Item - An all-inclusive term used in place of the following: appurtenance, facility, sample, assembly, component, equipment, material, module, part, product, structure, subassembly, subsystem, unit, documented concepts, or data.

Lead Quality Assurance Specialist - A functional title that refers to an individual authorized to coordinate development and implementation of the QA program for a TCEQ organization or program.

Management - Those individuals directly responsible and accountable for planning, implementing, and assessing work.

Management System - A structured, non-technical system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for conducting work and producing items and services.

Management System Review – A review to evaluate and document the management policies and procedures used to plan, implement, assess and correct the technical activities for environmental programs, as well as note good practices and suggested changes for improving the quality systems that support data for defensible environmental decisions. The MSR may be based upon document review, file examination, and interviews of managers and staff responsible for environmental data and operations.

Measurement and Testing Equipment (MTE) - Tools, gauges, instruments, sampling devices, or systems used to calibrate, measure, test, or inspect in order to control or acquire data to verify conformance to specified requirements.

Method - A body of procedures or techniques for performing an activity (e.g., sampling, chemical analysis, quantification) systematically presented in the order in which they are to be executed.

Mixed Waste - A combination of hazardous waste and low-level radioactive waste.

Nonconformance - A deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate; non-fulfillment of a specified requirement.

Objective Evidence - Any documented statement of fact, other information, or record, either quantitative or qualitative, pertaining to the quality of an item or activity, based on observations, measurements, or tests which can be verified.

Observation - A statement of fact that is supported by objective evidence and made during an audit.

Organization - A company, corporation, firm, enterprise, or institution, or part thereof that has its own functions and administration.

Organizational Structure - The responsibilities, authorities, and relationships, arranged in a pattern, through which an organization performs its functions.

Peer Review - A documented, critical review of work generally beyond the state of the art or characterized by the existence of potential uncertainty. The peer review is conducted by qualified individuals (or organizations) who are independent of those who performed the work but are equivalent in technical expertise (i.e., peers) to those who performed the original work. The peer review is conducted to ensure that activities are technically adequate, competently performed, properly documented, and satisfy established technical and quality requirements. The peer review is an in-depth assessment of the assumptions, methodology, acceptance criteria, and conclusions pertaining to specific work and of the documentation that supports them. Peer reviews provide an evaluation of a subject where quantitative methods of analysis or measures of success are unavailable or undefined, such as in research and development.

Performance Evaluation - A type of audit in which quantitative data generated in a measurement system are obtained independently and compared with routinely obtained data to evaluate the proficiency of an analyst or laboratory.

Precision - A measure of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions, expressed generally in terms of the standard deviation.

Procedure - A specified way to perform an activity.

Process - A set of interrelated resources and activities which transforms inputs into outputs.

Program - See environmental programs.

Program Manager - A functional title that refers to the individual authorized to manage an ongoing environmental program and accountable for the successful completion of program-related tasks and objectives. Program managers may be Division Directors, Section Managers, or Team Leaders.

Project - An organized set of activities within a program.

Project Manager - A functional title that refers to the individual authorized to manage an environmental project, including work performed by contractors, to its conclusion and who is accountable for the successful completion of project-related tasks and objectives.

Quality - The totality of features and characteristics of a product or service that bear on its ability to meet the stated or implied needs and expectations of the user.

Quality Assurance (QA) - An integrated system of management activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the customer.

Quality Assurance Project Plan (QAPP) - A formal document describing in comprehensive detail the necessary quality assurance, quality control, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance criteria.

Quality Assurance Record - A document that furnishes objective evidence of the quality of items or activities and that has been verified and authenticated as technically complete and correct.

Quality Control (QC) - The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality.

Quality Improvement - A management program for improving the quality of operations.

Quality Management Plan (QMP) - A formal document or manual, usually prepared once for an organization, that describes the quality system in terms of organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, documenting, and assessing all activities conducted.

Quality System - A structured and documented management system (1) describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services and (2) providing the framework for planning, implementing, documenting, and assessing work performed by the organization and for carrying out required quality assurance and quality control.

Quality System Audit - A systematic and independent examination and evaluation to determine whether an organization's quality system complies with planned arrangements and whether these arrangements are implemented effectively and are suitable for achieving objectives.

Radioactive Material - A naturally occurring or artificially produced solid, liquid, or gas that emits radioactivity spontaneously.

Radioactive Substance - (1) By-product material, (2) naturally occurring radioactive material (NORM) waste, excluding oil and gas NORM waste; (3) radioactive material; (4) radioactive waste; (5) source material; (6) source of radiation; and (7) special nuclear material.

Readiness Review - A systematic, documented assessment of the readiness for the startup or continued uses of a facility, process or activity. A readiness review is usually conducted before proceeding beyond a project milestone and prior to initiating a major phase of work.

Remediation - The process of reducing the concentration of a contaminant (or contaminants) in air, water, or soil media to a level that poses an acceptable risk to human health.

Representativeness - A measure of the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition.

Reproducibility - The precision, usually expressed as a standard deviation, that measures the variability among the results of measurements of the same sample at different laboratories.

Revision - A reissued quality assurance document (e.g., QMP, QAPP, etc.). A reissued document is usually identified by a revision, or version, number (e.g., TCEQ Quality Management Plan, Rev. 04) to distinguish it from a superseded and out-of-date document.

Root Cause - The underlying cause of an adverse condition which, when corrected, will prevent further recurrence of the condition. The term "root cause" can also be used to describe the underlying cause of a positive condition.

Self-Assessment - Assessments of work conducted by individuals, groups, or organizations directly responsible for overseeing and/or performing the work.

Service - The result generated by activities at the interface between the supplier and the customer, and by the supplier's internal activities to meet customer needs.

Significant Condition - Any state, status, incident, or situation of an environmental process or condition, or environmental technology, in which the work being performed will be adversely affected sufficiently to require corrective action to satisfy quality objectives or specifications and safety requirements; a condition that, if uncorrected, could have a serious effect on safety, integrity, validity, or availability of environmental data, operations, or systems.

Software Life Cycle - The period of time that starts when a software product is conceived and ends when the software product is no longer available for routine use. The software life cycle typically includes a requirements phase, a design phase, an implementation phase, a test phase, an installation and check-out phase, an operation and maintenance phase, and sometimes a retirement phase.

Specification - A document stating requirements and which refers to or includes drawings or other relevant documents. Specifications should indicate the means and the criteria for determining conformance.

Standard Operating Procedure (SOP) - A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps and that is officially approved for performing certain routine or repetitive tasks.

Supplier - Any individual or organization furnishing services or performing work according to an agreement between two parties, such as a contract or financial assistance agreement (i.e., vendor, seller, contractor, subcontractor, fabricator, or consultant).

Surveillance - Continual or frequent monitoring and verification of the status of an entity and the analysis of records to ensure that specific requirements are being fulfilled.

Technical Review - A process by which a documented critical review of work is or has been performed within the state of the art. The review is accomplished by one or more qualified reviewers who are independent of those who performed the work but are collectively equivalent in technical expertise to those who performed the original work. The review is an in-depth analysis and evaluation of documents, activities, material, data, or items that require technical certification or validation for applicability, correctness, adequacy, completeness, and assurance that established requirements are satisfied.

Technical Systems Audit (TSA) - A thorough, systematic, on-site qualitative audit of facilities, equipment, personnel, training procedures, record keeping, data validation, data management, and reporting aspects of a system.

TCEQ Strategic Plan - A long-range planning and assessment tool. All Texas agencies must revise their strategic plans every two years.

Traceability - The ability to trace the history, application, or location of an entity by means of recorded information. For calibrations, traceability relates measuring equipment to national or international standards, primary standards, basic physical constants or properties, or reference materials. For data collection, traceability relates calculations and data generated throughout the project back to the quality requirements for the project.

User - An organization, group, or individual that uses the results or products from environmental programs. A user may be a customer for whom the results or products were collected or created.

Validation - Confirmation by examination and provision of objective evidence that the requirements for a specific intended use are fulfilled. For design and development, validation concerns the process of examining a product or result to determine conformance to user needs.

Verification - Confirmation by examination and provision of objective evidence that specified requirements have been fulfilled. For design and development, verification concerns the process of examining a result of a given activity to determine conformance to the stated requirements for that activity.

Work - The process of performing a defined task or activity (e.g., research and development, field sampling, analytical operations, equipment fabrication).